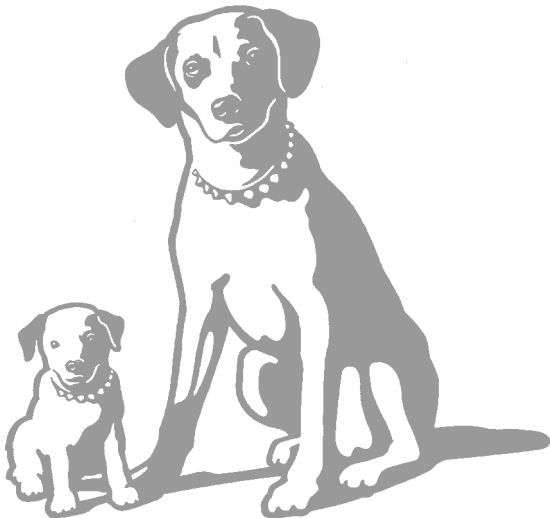


VR688HF

USER'S GUIDE



VIDEO CASSETTE

RECORDER

TRUST

Important Information


WARNING

To reduce the risk of fire or shock hazard, do not expose this VCR to rain or moisture.


WARNING

RISK OF ELECTRIC SHOCK DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

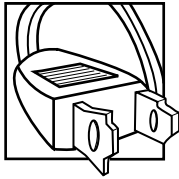


This symbol indicates "dangerous voltage" inside the product that presents a risk of electric shock or personal injury.



This symbol indicates important instructions accompanying the product.

Cautions



CAUTION: To reduce the risk of electric shock, match wide blade of plug to wide slot, fully insert.
ATTENTION: Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

Refer to the identification / rating label on the back of the product for the proper operating voltage. FCC Regulations state that unauthorized changes or modifications to this equipment may void the user's authority to operate it.

Note To Cable TV Installer

This reminder is provided to call your attention to Article 820-40 of the National Electrical Code (Section 54 of the Canadian Electrical Code, Part 1) which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

Product Registration

Please fill out the product registration card and return it immediately. Returning this card allows us to contact you if needed.

Keep your sales receipt to obtain warranty parts and service and for proof of purchase. Attach it here and record the serial and model numbers in case you need them. The numbers are located on the back of the VCR.

Model No. VR688HF

Serial No. _____

Purchase Date: _____

Dealer / Address / Phone: _____

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Choosing a Hookup

The hookups on pages 3 through 7 are divided into two hookup types: Basic (A) and Advanced (B and C).

The basic hookup shows the backs of TVs that have only an antenna/cable connection. It is the easier of the two and additional accessories may not be needed.

The advanced hookup shows the VCR hooked up to a monitor/receiver (TV with audio and video jacks). This connection may improve the picture quality as well as convenience of operation.

Answer the questions to choose the hookup for your VCR.

1. How do you receive your TV signals?

Choose one answer from below.

- A. Outside antenna – Turn to page 3.
- B. Rabbit ears (set-top) and/or bow tie antenna – Turn to page 3.
- C. Cable System – Go to question 2.
- D. Satellite System and another source (A, B, C) – Go to question 3.

2. What type of Cable-TV system* do you have?

Choose one answer from below.

- A. Cable without a box – Turn to page 3.
- B. Cable box to unscramble all the channels – Turn to page 4.
- C. Cable box to unscramble only pay channels, such as HBO, Showtime, Cinemax, etc. – Turn to page 5.

*You may need to contact your local cable company for assistance.

3. What type of satellite system do you have?

Choose one answer from below.

- A. Satellite receiver connected to TV without audio/video inputs – Turn to page 6.
- B. Basic satellite receiver connected to TV with audio/video inputs – Turn to page 7.
- C. Deluxe satellite receiver connected to TV with audio/video inputs – Turn to page 7.

Optional Hookups

How to hook up two VCRs for copying tapes?

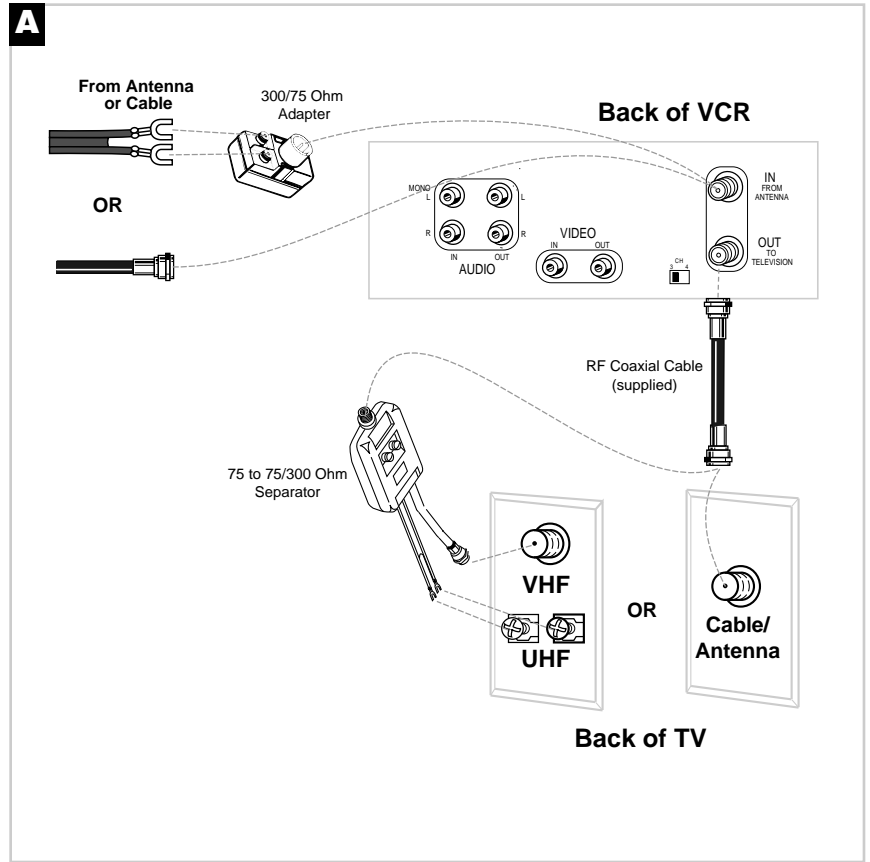
- A. Select a hookup by answering the questions above.
- B. Then modify the connections as shown on page 8.

Antenna or Cable System Without a Cable Box

A. Basic hookup.

Use this hookup for a simple connection which requires fewer accessories.

1. Set the CH3 CH4 switch on back of VCR to either channel 3 or 4.
You will tune the TV to this channel and use the TV•VCR button to watch the VCR.
2. Connect as shown.
This connection may require additional accessories not provided.
3. Plug in power cords of VCR and TV.
4. **Continue to page 9.**

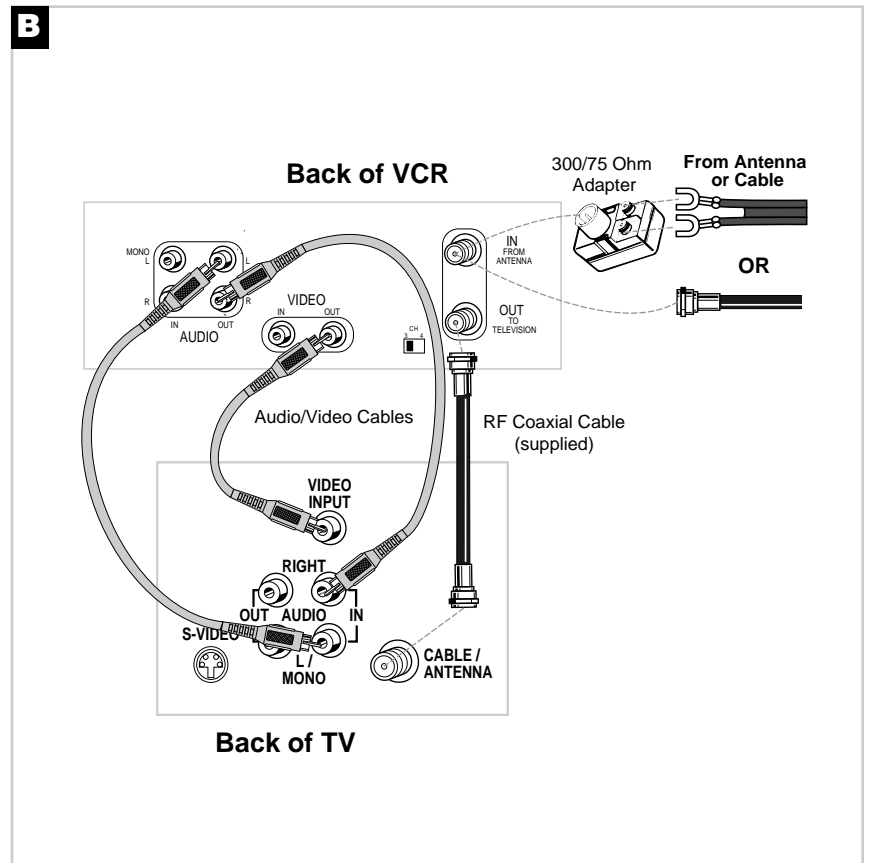


B. Advanced hookup.

Use this hookup for slightly improved picture quality, hi-fi stereo sound, and more convenient operation — use of TV•VCR button not required.

1. Connect as shown.
This connection requires additional accessories not provided.
If your TV is not stereo, you may need a Y-adaptor to hear sound from both left and right channels.
2. Plug in power cords of VCR and TV.
3. **Continue to page 9.**

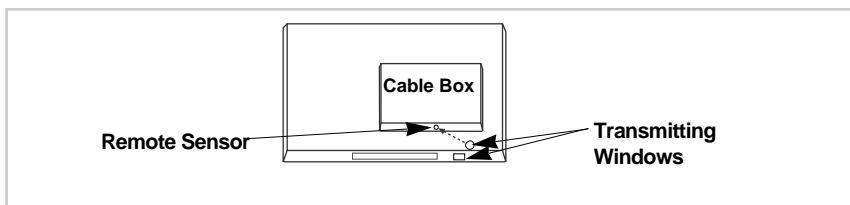
You will tune the TV to its video input to watch the VCR.
Set the Auto TV/VCR feature to OFF. See page 19.



Cable System With Cable Box to Unscramble All Channels

Position cable box.

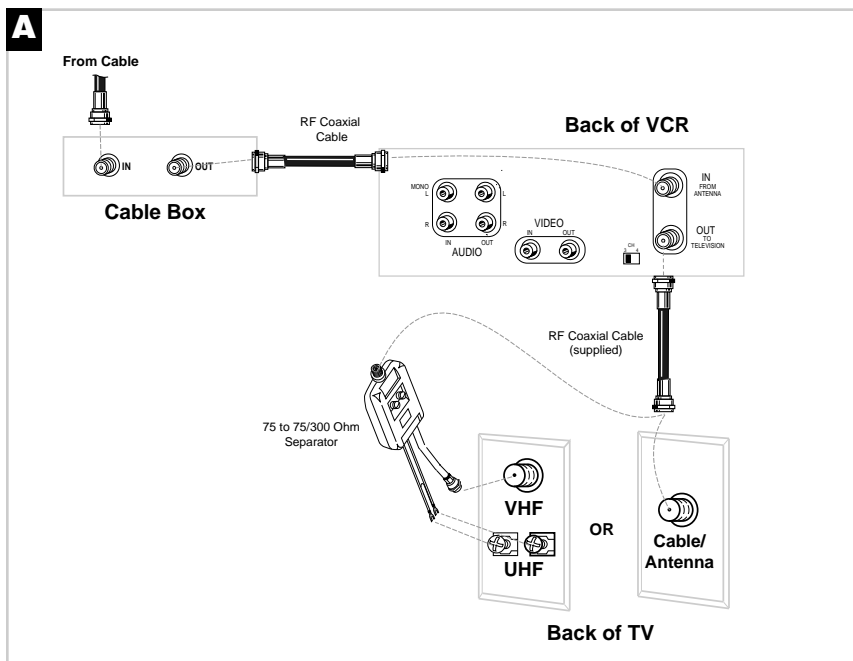
Position the remote-controllable cable box on top of the VCR. You may need to position it at different angles before the VCR can control it. Make sure the cable box does not cover the transmitting window on top of the VCR.



A. Basic hookup.

Use this hookup for a simple connection which requires fewer accessories.

1. **Set the CH3 CH4 switch on back of VCR to either channel 3 or 4.**
You will tune the TV to this channel and use the TV•VCR button to watch the VCR.
2. **Connect as shown.**
This connection may require additional accessories not provided.
3. **Plug in power cords of VCR, TV, and cable box.**
4. **Continue to page 9.**



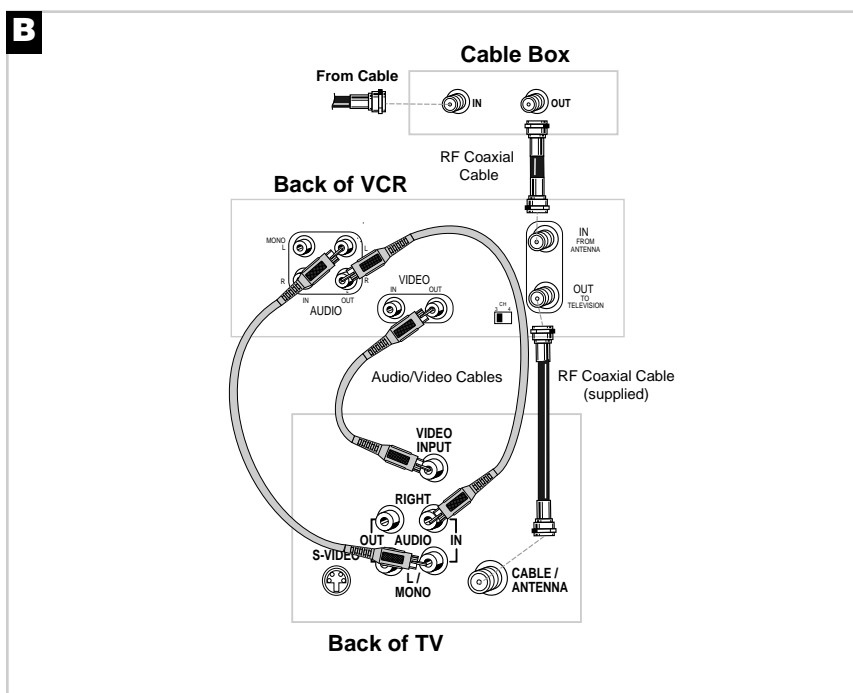
B. Advanced hookup.

Use this hookup for slightly improved picture quality, hi-fi stereo sound, and more convenient operation — use of TV•VCR button not required.

1. **Connect as shown.**
This connection requires additional accessories not provided.
If your TV is not stereo, you may need a Y-adaptor to hear sound from both left and right channels.
2. **Plug in power cords of VCR, TV, and cable box.**
3. **Continue to page 9.**

You will tune the TV to its video input to watch the VCR.
Set the Auto TV/VCR feature to OFF. See page 19.

Caution: The unauthorized recording of satellite broadcasts, television programs, or other materials may infringe the rights of others.

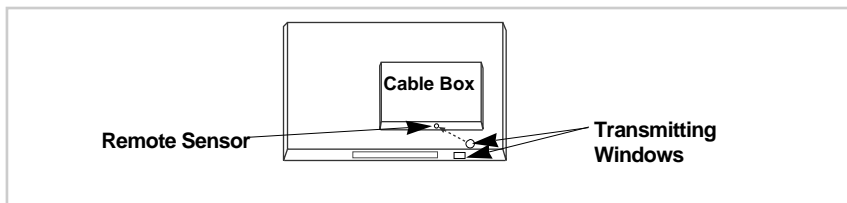


Cable System With Cable Box to Unscramble Pay Channels

(such as HBO, Showtime, Pay-Per-View, etc.)

Position cable box.

Position the remote-controllable cable box on top of the VCR. You may need to position it at different angles before the VCR can control it. Make sure the cable box does not cover the transmitting window on top of the VCR.



A. Basic hookup.

Use this hookup for a simple connection which requires fewer accessories.

1. Set the CH3 CH4 switch on back of VCR to either channel 3 or 4.

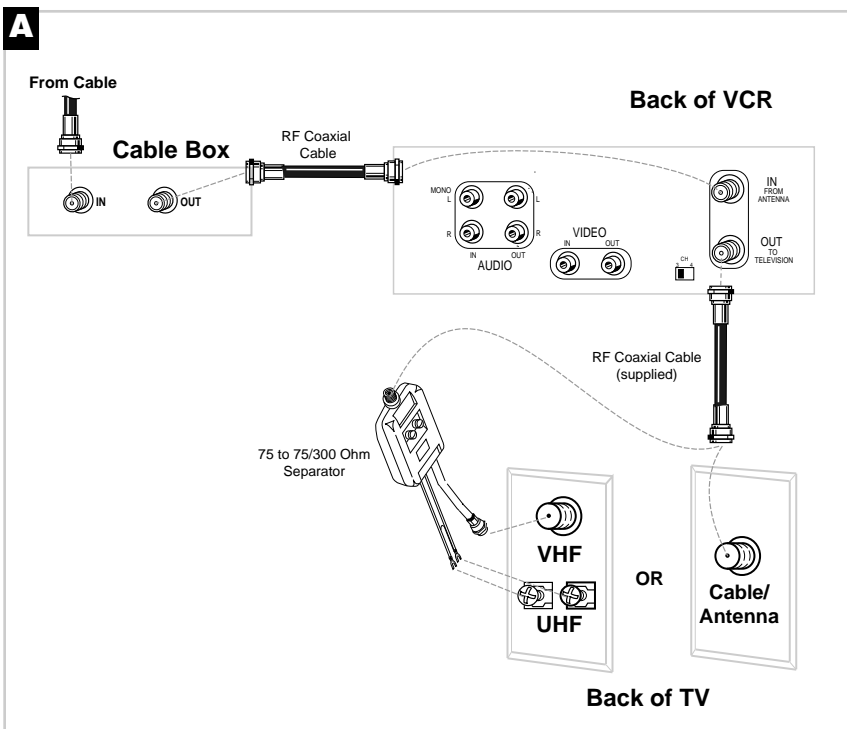
You will tune the TV to this channel and use the TV•VCR button to watch the VCR.

2. Connect as shown.

This connection may require additional accessories not provided.

3. Plug in power cords of VCR, TV, and cable box.

4. **Continue to page 9.**



B. Advanced hookup.

Use this hookup for slightly improved picture quality, hi-fi stereo sound, and more convenient operation — use of TV•VCR button not required.

1. Connect as shown.

This connection requires additional accessories not provided.

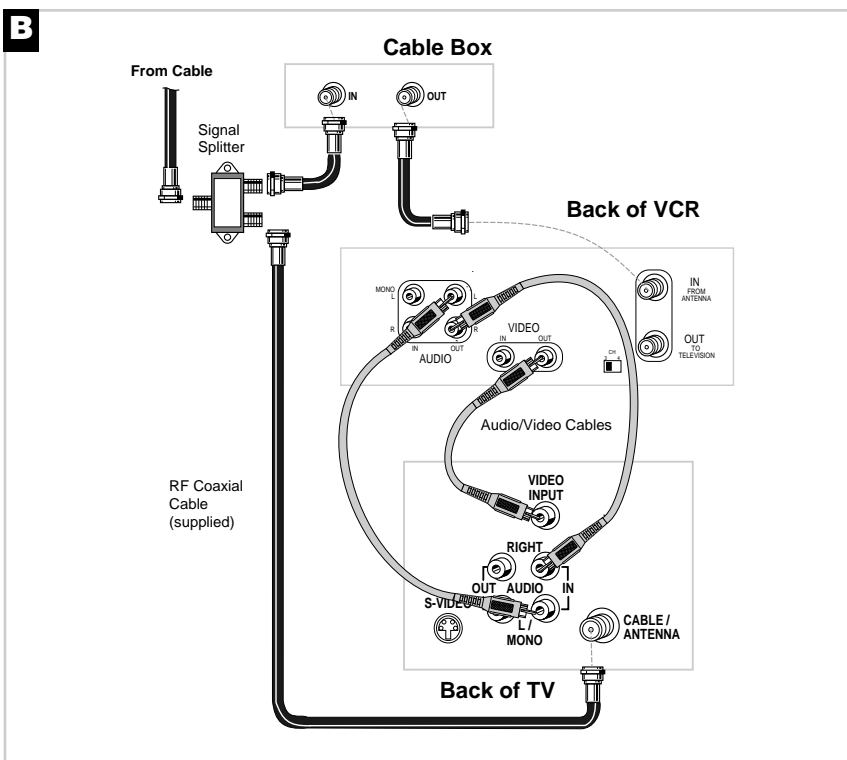
If your TV is not stereo, you may need a Y-adaptor to hear sound from both left and right channels.

2. Plug in power cords of VCR, TV, and cable box.

3. **Continue to page 9.**

You will tune the TV to its video input to watch the VCR. All pay channels are viewed through the VCR.

Set the Auto TV/VCR feature to OFF. See page 19.

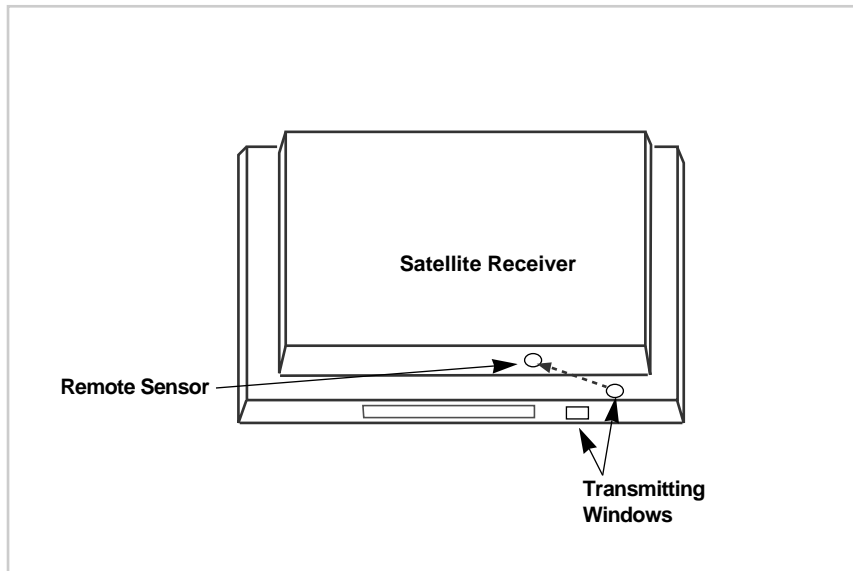


Satellite Receiver

Position receiver.

Position the receiver on top of the VCR. You may need to position it at different angles before the VCR can control it. Make sure the receiver does not cover the transmitting window on top of the VCR.

Do not stack electronic components or other objects on top of the receiver. The slots on top of the receiver must be left uncovered to allow proper airflow to the unit. Blocking the airflow to the unit could impair performance or damage your receiver and other components. Also, do not stack the receiver on top of a "hot component" such as an audio power amplifier.

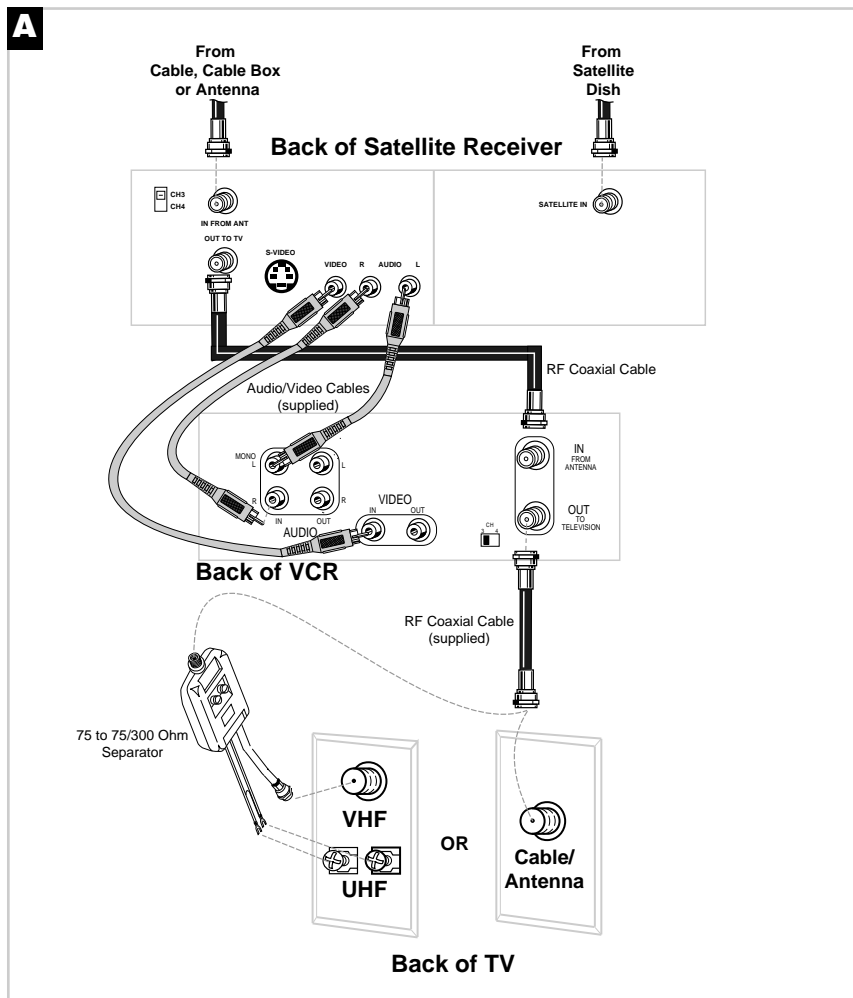


A. Basic hookup.

Use this hookup if your TV does not have audio/video jacks.

1. **Set the CH3 CH4 switch on back of satellite receiver to either channel 3 or 4.**
You will tune the VCR to this channel or its line input (L1) to record from the receiver.
To watch the satellite receiver, turn off the VCR. If you want to watch or record the signal from your antenna, cable, or cable box, make sure the satellite receiver is turned off.
2. **Set the CH3 CH4 switch on back of VCR to either channel 3 or 4.**
You will tune the TV to this channel and use the TV•VCR button to watch the VCR.
3. **Connect as shown.**
This connection may require additional accessories not provided.
4. **Plug in power cords of VCR, TV, and receiver.**
5. **Continue to page 9.**

Caution: The unauthorized recording of satellite broadcasts, television programs, or other materials may infringe the rights of others.



Satellite Receiver

B. Advanced hookup with basic receiver.

Use this hookup if your TV has audio/video jacks and your receiver has one set of AUDIO/VIDEO jacks.

1. Set the **CH3 CH4** switch on back of receiver to either channel 3 or 4.

You will tune the VCR to this channel to record from the satellite receiver.

To watch the satellite receiver, tune your TV to its video input channel.

If you want to watch or record the signal from your antenna, cable, or cable box, make sure the satellite receiver is turned off.

2. Set the **CH3 CH4** switch on back of VCR to either channel 3 or 4.

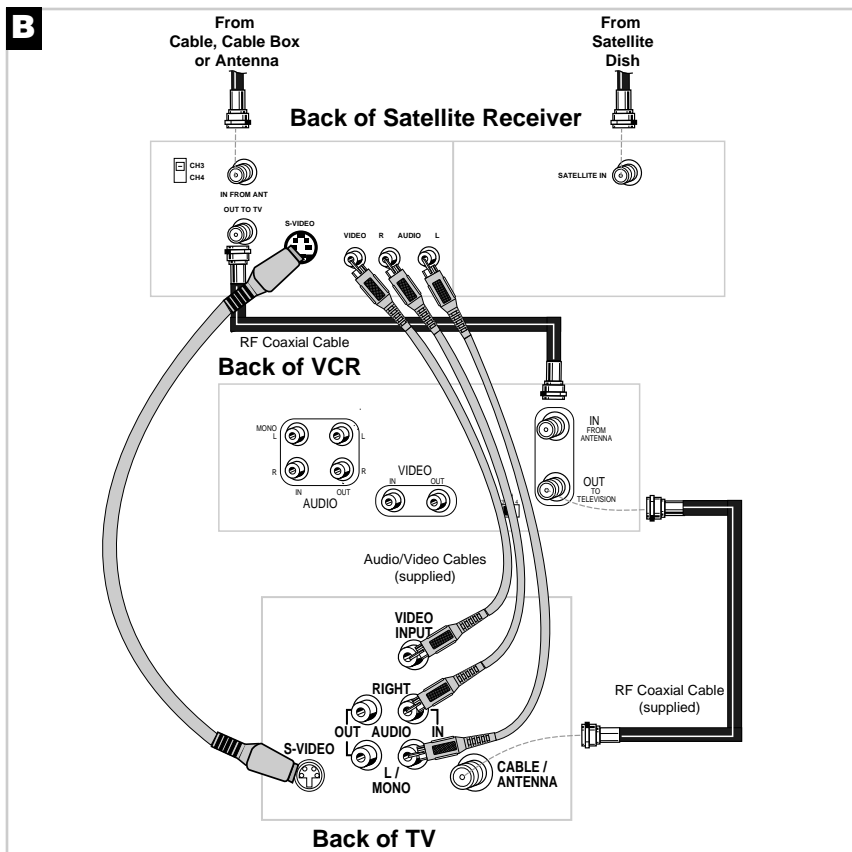
You will tune the TV to this channel and use the **TV•VCR** button to watch the VCR.

3. Connect as shown.

This connection may require additional accessories not provided.

4. Plug in power cords of VCR, TV, and receiver.

5. **Continue to page 9.**



C. Advanced hookup with deluxe receiver.

Use this hookup if your TV has audio/video jacks and your receiver has two sets of AUDIO/VIDEO jacks.

1. Set the **CH3 CH4** switch on back of VCR to either channel 3 or 4.

You will tune the TV to this channel and use the **TV•VCR** button to watch the VCR.

To record from the satellite receiver, you will tune the VCR to its line input (L1).

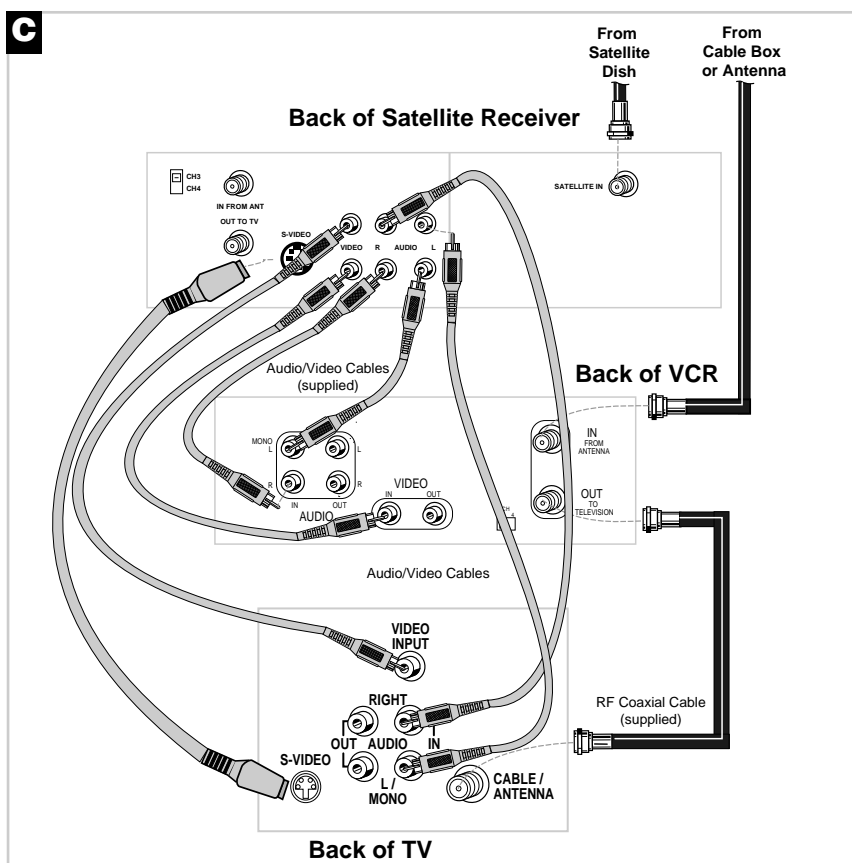
To watch the satellite receiver, tune your TV to its video input channel.

2. Connect as shown.

This connection may require additional accessories not provided.

3. Plug in power cords of VCR, TV, and receiver.

4. **Continue to page 9.**



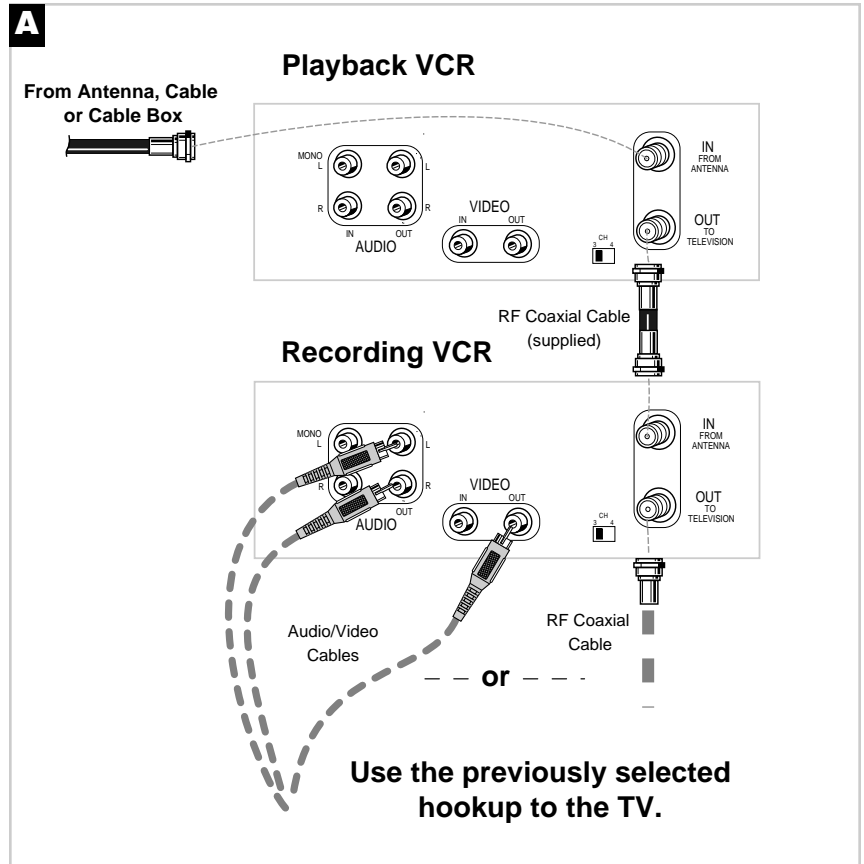
Caution: The unauthorized recording of satellite broadcasts, television programs, or other materials may infringe the rights of others.

Connecting Two VCRs for Copying Tapes

Option A hookup.

Use this hookup for a simple connection which requires fewer accessories.

1. Select a hookup from pages 2 through 7 and then modify with this connection.
2. Set the CH3 CH4 switch on the playback VCR to either channel 3 or 4.
You will tune the recording VCR to this channel to receive the signal from the playback VCR.
3. Connect as shown.
This connection may require additional accessories not provided.
4. Plug in power cords of VCRs and TV.
5. **Continue to page 9.**



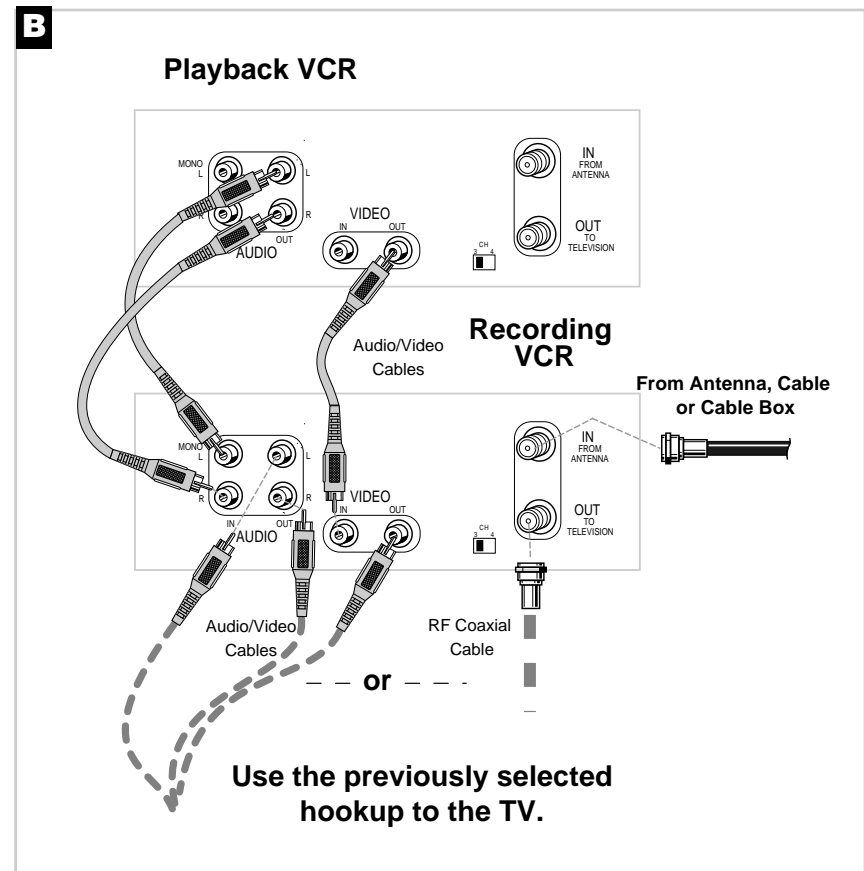
Option B hookup.

Use this hookup for slightly improved copy quality, hi-fi stereo sound, and more convenient operation — use of TV•VCR button not required.

1. Select a hookup from pages 2 through 7 and then modify with this connection.
2. Connect as shown.
This connection requires additional accessories not provided.
If your other VCR is not stereo, plug it into the AUDIO L MONO jack of this VCR to hear sound from both left and right channels.
3. Plug in power cords of VCRs and TV.
4. **Continue to page 9.**

You will select the line (audio/video) input on the recording VCR to receive the signal from the playback VCR.

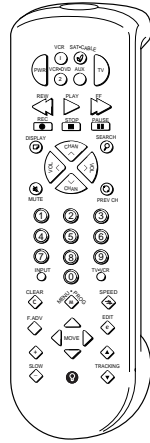
Caution: The unauthorized recording of satellite broadcasts, television programs, or other materials may infringe the rights of others.



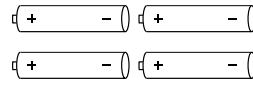
Startup

1. Check accessories with VCR.

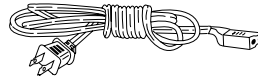
Contact your dealer if any items are missing.



Remote
(Stock No. 231544)



4 "AAA" Batteries

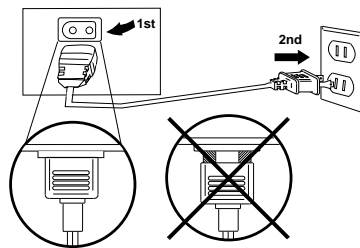


Power Cord
(Stock No. 218104)

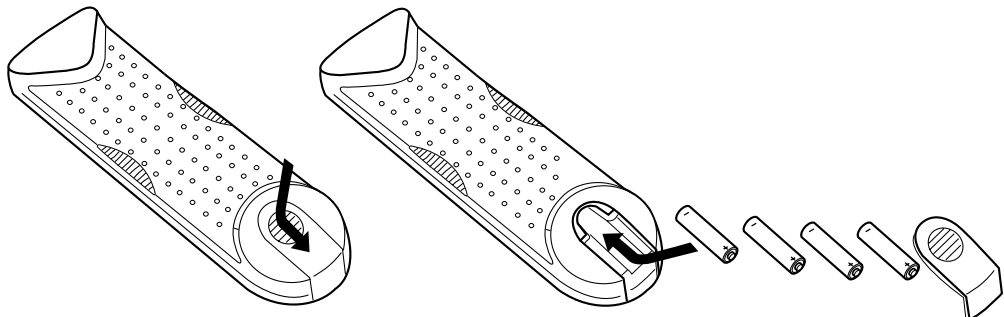
RF Coaxial Cable
(Stock No. 221396)



2. Attach power cord to back of VCR.



3. Insert batteries in remote.



continued on next page

Startup

4. Turn on the TV.

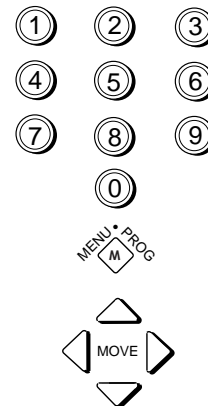
- A. Turn on the TV.
- B. If you used one of the basic hookups, tune the TV to the channel selected with the CH3 CH4 switch on back of VCR.
If you used one of the advanced hookups, tune the TV to the TV's video input. (See TV owner's manual for details.)

5. Use the on-screen menu system.

Point and Select is the method you use to move through the menu system. There are two ways to select (or change) a menu or feature.

- **Using the Number Buttons:** Press MENU•PROG to display the VCR MAIN MENU. Then use the number button on the remote that corresponds to the number on the menu to select (or change) an item. Using the number button allows you to point and select a menu item at the same time.
- **Using the MOVE Arrow buttons:** Press MENU•PROG to display the VCR MAIN MENU. Then use the MOVE \triangle or ∇ arrow button to point to a menu or item. Press MENU•PROG to select (or change) the item.

Although there are two ways to access the menu system, only the number buttons are referenced throughout this manual to explain the VCR features and operations.



6. Turn on the VCR.

- A. Press VCR1 on the remote.

Setup Menu Appears Automatically

The first time you turn on the VCR, the SETUP menu will appear. Follow the steps on the screen to automatically setup a satellite receiver or cable box, auto channel search, automatically set the time, and select some feature options.

1. Press number button 1 on the remote to Begin setup.
Proceed to Step 7.
2. Press number button 2 on the remote to Cancel the setup.

If you choose not to use the SETUP menu, follow the steps in this section to manually set up the VCR so it will operate properly.

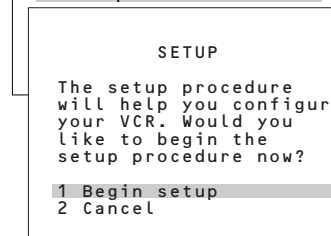
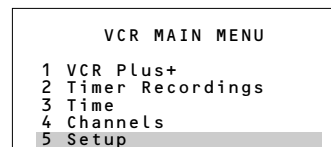
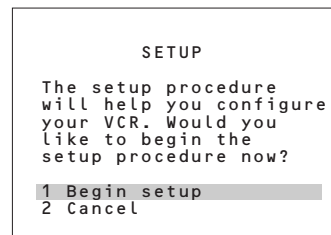
If you skip auto channel search during setup, the auto clock set feature will not be performed in this sequence.

Select SETUP Menu Using VCR MAIN MENU

If the SETUP menu does not appear, you can select it using the VCR MAIN MENU. Each of these features (except the automatic clock set) may also be performed individually.

To select the SETUP menu.

1. Press MENU•PROG to display the VCR MAIN MENU.
2. Press 5 to display the SETUP menu.



Startup

7. RCA digital satellite receiver and/or cable box setup.

The DSS and cable box setups allow the VCR to record programs from the cable box and/or RCA digital receiver.

- The VCR will turn on an RCA digital satellite receiver and tune it to the channel you want to record during timer recordings. Position the receiver above the VCR to receive the infrared remote signal. *See pages 6-7.*
- If your cable box can be controlled by a remote, the VCR may be able to tune it to the channel you want to record during VCR Plus+ and timer recordings and automatically set the clock after power failures. Position the remote-controllable cable box on top of the VCR to receive the infrared remote signal. *See pages 4-5.*

RCA Digital Receiver Setup

A. RCA digital receiver not used:

Press 2. You are finished with DSS SETUP.

RCA digital receiver used:

Press 1 to continue.

- B. Press two numbers on the remote to enter the channel that your VCR receives signals from the receiver. Press 0 before a single-digit number. Valid numbers are 02 – 69.

If you connected your receiver to the VCR using the receiver's AUDIO/VIDEO OUT jacks, press INPUT to select VIDEO1 or VIDEO2.

Press CLEAR on the remote to correct an entry.

- C. Press MENU•PROG to proceed.

The VCR will now receive all signals from the DSS receiver on -- message appears.

- D. Press MENU•PROG to proceed.

RCA digital receiver turned on:

The receiver should turn on and tune to channel 200. Press 1 and proceed to step E.

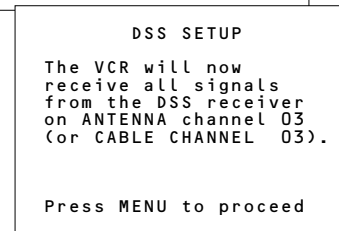
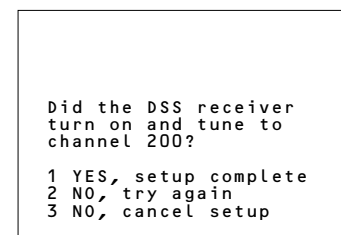
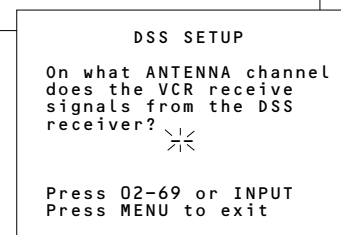
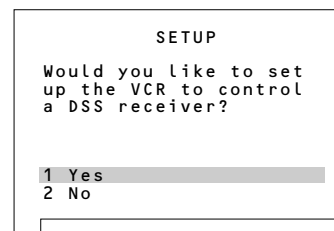
The VCR will now turn on and tune your receiver to the correct channel during timer recordings. --- DSS will appear for channels 100 and over in the timer program screen.

RCA digital receiver did not turn on:

If your receiver does not turn on, try repositioning the receiver and press 2 to try again.

Cancel RCA digital receiver :

Press 3 to cancel DSS SETUP. The VCR will not turn on or control the receiver.



continued on next page

Startup

7. RCA digital satellite receiver and/or cable box setup. (continued)

Cable Box Setup

- E. **Setup the VCR to control a cable box:**
 Press 1 if you would like to setup the VCR to control a cable box.
 Press 2 if you do not want to setup the VCR to control a cable box.

- F. **Cable box not used for all channels:**
 Press 2. You are finished with CABLE BOX SETUP. *Skip to Step 8.*

Cable box used for all channels:

Press 1 to continue.

Press two numbers on the remote to enter the channel that your VCR receives signals from your cable box. Press 0 before a single-digit number. Valid numbers are 01 – 13.

If you connected your cable box to the VCR using the box's AUDIO/VIDEO OUT jacks, press INPUT to select VIDEO1 or VIDEO2.

Press CLEAR on the remote to correct an entry.

- G. Press MENU•PROG to proceed.

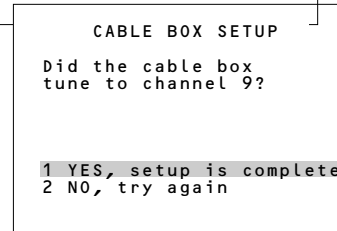
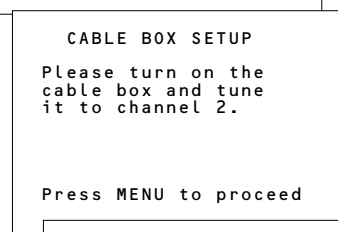
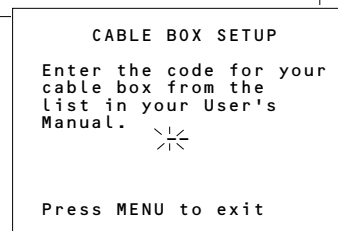
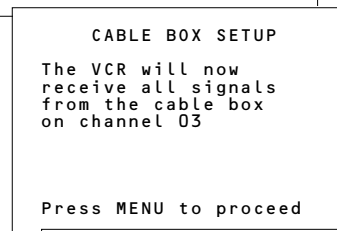
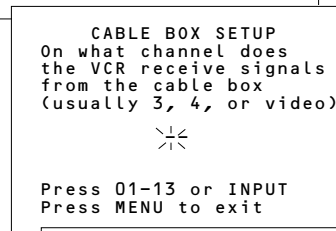
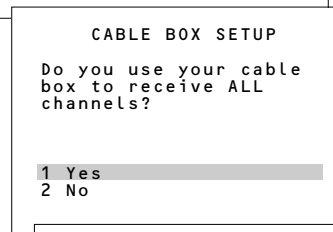
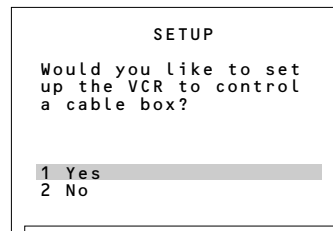
The VCR will now receive all signals from the cable box on channel -- message appears.

- H. Press MENU•PROG to proceed.

- I. **Manually Controlled Cable Box:** You are finished with cable box setup. Press MENU•PROG to exit. *Proceed to Step 8.*

Remote Controlled Cable Box: Enter your cable box code from the chart on the next page and follow the on-screen directions. The VCR changes the cable box from channel 02 to channel 09 when you enter the correct code for your cable box.

If none of the codes work, try repositioning the cable box and entering the codes again. If the codes still do not work, this VCR cannot control your cable box during VCR plus+ or timer recordings. Press MENU•PROG to exit the CABLE BOX SETUP. *Proceed to Step 8.*



Startup

7. RCA digital satellite receiver and/or cable box setup. (continued)

Compatible Cable Box Control Codes

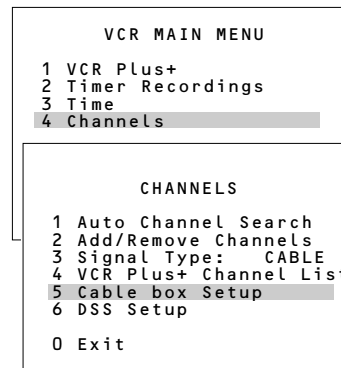
Brand of Cable-TV Box*	Code Number(s)
ABC	53,54
Anvision	07, 08
Cablestar	07, 08
Eagle	07,08
Eastern International	02
General Instrument	04, 05, 15, 23, 24, 25, 30, 36
Hamlin	12, 13, 34,48
Hitachi	37, 43
Jerrold	04, 05, 15, 23, 24, 25, 30, 36, 45, 46,47
Macom	37, 43
Magnavox	07, 08, 19, 26, 28, 29, 32, 33, 40, 41
NSC	09
Oak	01, 16, 38
Oak Sigma	16
Panasonic	03, 27, 39
Philips	07, 08, 19, 26, 28, 29, 32, 33, 40, 41
Pioneer	18, 20, 44
Randtek	07, 08
RCA	00, 27
Regal	12, 13
Regency	02, 33
Samsung	44
Scientific Atlanta	03, 22, 35
Sylvania	11
Teknika	06
Texscan	10, 11
Tocom	17, 21,49, 50
Unika	31, 32, 41
Universal	51, 52
Viewstar	07, 08, 19, 26, 28, 29, 32, 33, 40, 41
Warner Amex	44
Zenith	14, 42

* The remote may not be able to control every model cable box of the brands listed.

Manual cable box or RCA digital satellite receiver setup.

If you ever want to individually set up the cable box or satellite receiver:

- A. Press MENU•PROG to display the VCR MAIN MENU on the TV screen.
- B. Press 4 to select CHANNELS menu.
- C. Select Cable box or DSS Setup.
 - Press 5 to select Cable box Setup.
 - Press 6 to select DSS Setup.
- D. Follow the directions on the screen as shown in step 7.



continued on next page

Startup

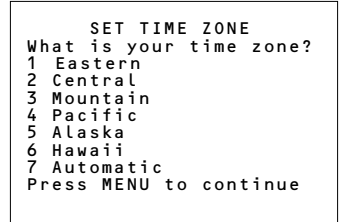
8. Use SETUP menu to auto channel search and auto clock set.

Follow the steps on the screen to auto channel search and automatically set the clock*. If the SET TIME ZONE or SET DAYLIGHT SAVINGS screen appears, follow step A or B below. If the SETUP menu appears, skip to step C.

A. If the SET TIME ZONE screen appears, select a time zone:

Press the number on the remote (1-6) corresponding to the "standard" time zone you live in. If you do not know your time zone, press 7 and an automatic setting will be made.

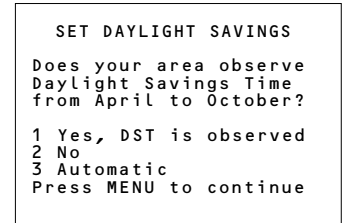
If you select Automatic for your time zone, the VCR will set the clock using the first Coordinated Universal Time information it finds. If the time is not correct, select a time zone or set the clock manually. If the time is incorrect by a few minutes (more than one minute), the local station may not be transmitting the correct time.



B. If the SET DAYLIGHT SAVINGS screen appears:

Press 1 if your area observes daylight savings time from April to October or press 2 if your area does not observe daylight savings time. If you do not know, press 3.

The VCR will set the time according to the information received from the broadcast.



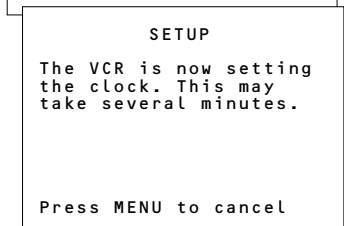
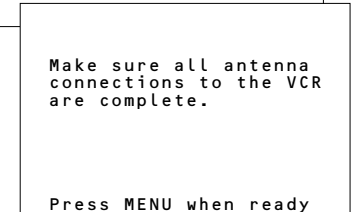
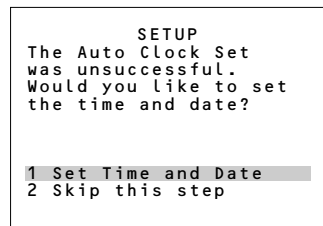
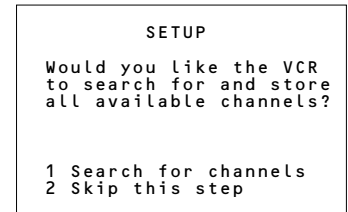
C. When the auto channel search SETUP screen appears:

Press 1 if you would like the VCR to search for and store all available channels. Press 2 if you wish to skip this step.

If you skip auto channel search during setup the auto clock set feature will not be performed in this sequence.

D. Press MENU•PROG on the remote if all antenna or cable connections are completed. Auto Channel Search will be performed followed by automatic clock set.

If The Auto Clock Set was unsuccessful message appears, you can press 1 to set the clock manually or try auto clock set again. The clock must be set before you can use the timer recording feature.



Try Auto Clock Set Again: If you think there is a local station (usually PBS) broadcasting the XDS (time) information, make sure the Auto Clock Set feature is set to ON on the TIME menu (press 2 to exit SETUP, press MENU•PROG to display the VCR MAIN MENU, press 3 to display the TIME menu, and press 2 to turn the Auto Clock Set feature ON). Tune the VCR to the channel you believe is broadcasting the information before turning off the VCR. If the time does not set within ten minutes, XDS information is not available. Set the time and date manually.

Set Clock Manually: Press 1 and follow the directions on the following page to manually set the clock.

* Signal not available in all areas.

continued on next page

Startup

8. Use SETUP menu to auto channel search and auto clock set. (continued)

Manual clock set.

If the **AUTO CLOCK SET** was unsuccessful:

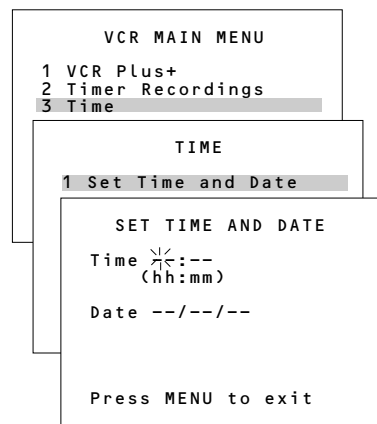
- A. Press 1 to display the SET TIME AND DATE screen.
- B. Enter the time and date with the number buttons on the remote.
 - Press 0 before single-digit numbers.
Example: press 0, then 5, then 0, then 7 for a time of 5:07. Press 1 for AM or 2 for PM.
 - Press CLEAR on the remote to change incorrect entries.
- C. Press MENU•PROG on the remote to remove the SET TIME AND DATE screen from the TV screen and start the clock.

The time will appear in the VCR's display panel and the time and date will appear on the TV screen when you press DISPLAY.

If you ever need to reset the clock:

- A. Press MENU•PROG on remote to display the VCR MAIN MENU on the TV screen.
- B. Press 3 to display the TIME menu.
- C. Press 1 to display the SET TIME AND DATE screen.

If you set the clock manually, Auto Clock Set will be set to OFF.



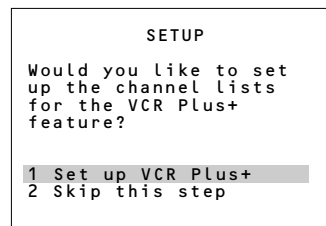
Startup

9. Setup VCR Plus+ channels.

The VCR must be setup with the VCR Plus+ channels before you can record using VCR Plus+. This can be done now or at a later time.

Press 1 if you would like to setup the VCR Plus+ channels now. *Details are on page 40.*

Press 2 if you wish to skip this step.



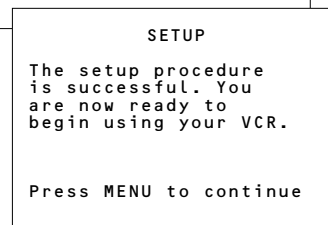
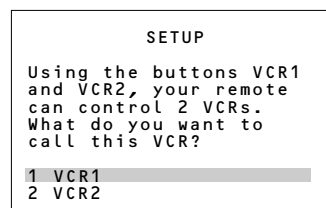
10. Program VCR for VCR1 or VCR2•DVD button.

You can program this VCR to respond to the VCR1 or VCR2•DVD button on the remote. *Details are on page 22.*

Press 1 if you want your VCR to respond to the VCR1 button. Press 2 if you want your VCR to respond to the VCR2•DVD button on the remote.

Remember you must press VCR1 or VCR2•DVD on the remote — whichever you selected in the menu — before the remote will operate this VCR.

Setup is complete. Press MENU•PROG to return to the VCR MAIN MENU.



Startup

11. Add or remove channels from the VCR's memory.

You may want to add or remove channels if some of the channels are not active, have weak signals, or you do not want to watch them.

We recommend channels be placed in memory using the Auto Channel Search feature before adding or removing channels. Channels 2-13, L1 and L2 are preset at the factory.

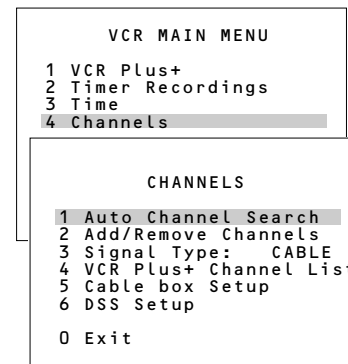
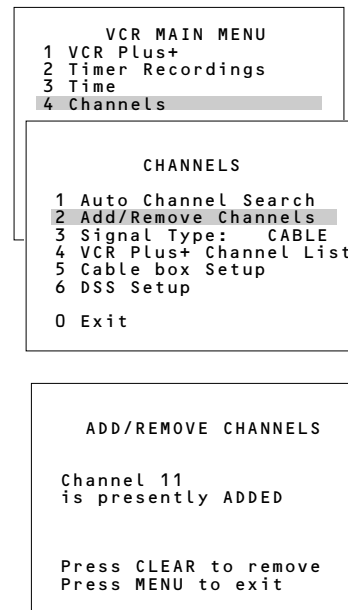
- A. Press VCR1 (VCR2•DVD) on the remote, whichever you select in Step 10.
- B. If the VCR MAIN MENU does not appear on the TV screen, press MENU•PROG on the remote.
- C. Press 4 to display the CHANNELS menu.
- D. Press 2 to display the ADD/REMOVE CHANNELS menu.
- E. Follow the directions on the screen.
- F. Add or remove more channels by entering channel numbers or using CHAN up or down.

Auto channel search using the CHANNELS menu.

If you ever need to repeat Auto Channel Search because you change cable or antenna signals:

- A. Press MENU•PROG to display the VCR MAIN MENU on the TV screen. If this menu does not appear:
 - Make sure TV is tuned to same channel as the CH3 CH4 switch on the back of the VCR or the TV's video input (refer to TV's manual).
 - Press VCR1 (VCR2•DVD), then press MENU•PROG again.
 - If you use a basic hookup, check VCR indicator in display panel – it should be on. Press TV•VCR to turn it on.
 - Check the connections.
- B. Press 4 to display the CHANNELS menu.
- C. Press 1 to begin Auto Channel Search.

The VCR automatically selects the Signal Type: CABLE (cable TV) or ANTENNA. If you need to change the setting manually, press 3.



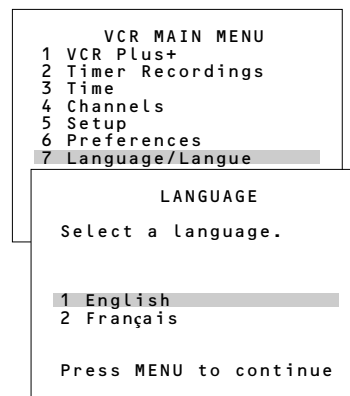
continued on next page

Startup

12 Select a language./Choisissez une langue.

You can select the language for the displays on the VCR.

- A. Press MENU•PROG on the remote to see the VCR MAIN MENU on the TV screen.
- B. Press 7 to display the LANGUAGE menu.
- C. Select English or French.
 - Press 1 to select English.
 - Press 2 to select Français (French).



13. Use TV•VCR button.

Skip this step if you used one of the advanced hookups.

When using one of the basic hookups, the TV•VCR button lets you switch between the picture coming from the VCR or the picture from the TV channel. This button lets you record a program on the VCR while watching another channel on the TV. *Details are on page 39.*

- A. Press VCR1 (VCR2•DVD) to set the remote to control the VCR.
- B. Press TV•VCR to see the picture from the VCR.
The VCR indicator lights in the display panel.
- C. Press CHANNEL up or down on the VCR or CHAN on VCR's remote to change channels on the VCR.
The channel number changes in the display panel.
- D. Press TV•VCR to see the TV channels.
The VCR indicator does not light in the display panel. Change channels using the TV's remote.
- E. Return the TV to the VCR viewing channel — CH3 or CH4.
- F. Press VCR1 (VCR2•DVD), then TV•VCR to switch back to the picture from the VCR.

Startup

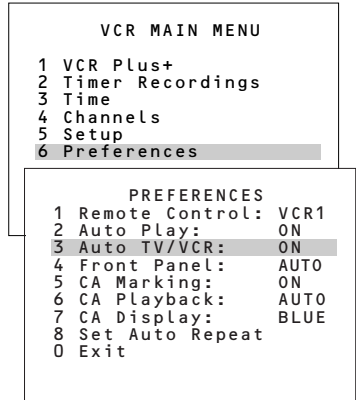
14 Set Auto TV/VCR feature.

If you used one of the basic hookups and did not connect the audio/video jacks of the VCR to the TV, leave the Auto TV/VCR feature set to ON.

If you have connected your VCR using the audio/video input of your TV, you can prevent the VCR indicator from turning on automatically and interrupting the cable or antenna signal to your TV.

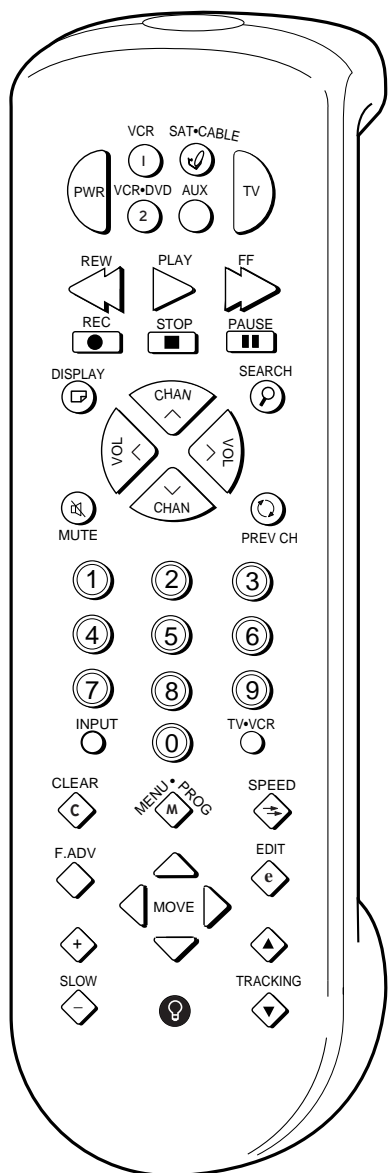
- A. Press MENU•PROG on remote to see VCR MAIN MENU on the TV screen.
- B. Press 6 to display PREFERENCES.
- C. Press 3 to select Auto TV/VCR: ON or OFF.
 - Select ON if you used one of the basic hookups and watch your VCR on channel 3 or 4 of your TV. The VCR will automatically switch the TV•VCR setting to VCR every time the VCR is turned on, a tape with the safety tab removed is inserted, or you press PLAY.
 - Select OFF if you used one of the advanced hookups and watch your VCR on the video input channel of your TV. The VCR indicator will not turn on automatically and the signal from your antenna or cable to your TV will not be interrupted.

Pressing TV•VCR on the remote will still turn the VCR indicator on or off and switch the antenna signal.



Remote Control

Your back-lit remote has a light button (☉) that glows in the dark. Press this button to light the buttons on the remote. The remote buttons remain lit when they are pressed within a few seconds of each other. If a button is not pressed within approximately eight seconds, the light turns off to conserve battery power.



Component Buttons

Press one of the buttons to set the remote to operate that component.

AUX (Auxiliary)

Can be programmed to control a compatible RCA audio or video component. See page 25.

Used with PWR button to turn on another brand of TV, other than RCA, when the remote is programmed to control that TV. See page 23.

SAT•CABLE

Turns on a compatible cable box or satellite receiver. See page 24.

Used with PWR button to turn on another brand of cable box or receiver, other than RCA, when the remote is programmed to control that cable box or receiver. See page 24.

VCR1

Turns on a compatible RCA, ProScan, or GE VCR and sets remote to control the VCR.

VCR2•DVD

Turns on a compatible RCA, ProScan, or GE VCR and sets remote to control VCR when it has been setup. See page 22.

TV

Turns on a compatible RCA, ProScan, or GE TV and sets the remote to control the TV.

Used with PWR button to turn on a compatible RCA or ProScan LaserDisc player. See page 22.

Can also be programmed to control a compatible RCA DVD component.

VCR Function Buttons

Press VCR1 (VCR2•DVD) to set remote to control the VCR to use the function

CHAN Up or Down

Selects next higher or lower channel in the VCR's channel memory.

CLEAR

Resets time counter to 0:00:00.

Allows you to change entries when setting the clock or VCR for a VCR Plus+ or timer recording.

DISPLAY

Shows VCR operating displays on the TV screen.

Displays program information when available.

Displays the time counter.

EDIT

Signals two properly connected compatible VCRs to begin copying a tape. See page 48.

F.ADV (Frame Advance)

Lets you view one frame with each press of the button while the tape is paused.

FF (Fast Forward)

Fast forwards the tape when the VCR is stopped.

Searches the picture in forward motion during playback.

INPUT

Turns the line input on or off. L1 or L2 will appear in the VCR's display panel and VIDEO1 or VIDEO2 will appear on the TV screen.

Line input refers to the signal coming from the component connected to the audio/video input jacks on the back (L1) or front (L2) of the VCR.

MENU•PROG

Displays the VCR MAIN MENU on the TV screen.

Removes a menu from the screen.

MOVE Arrow Buttons (↔)

Allow you to move through the menus, enter data and change settings of selected features. See page 10.

Numbers (0 through 9)

Select a channel up to 99 by pressing two numbers.

Select a cable channel over 99 by pressing and holding 1 until 1-- appears on the screen. Then press the other two numbers.

Buttons

VCR Function Buttons

(continued)

PAUSE

Pauses action for viewing during playback.

Pauses recording to prevent recording of unwanted scenes.

PLAY

Plays a tape.

PWR (Power)

Turns off VCR when remote is set to control the VCR.

Press twice to turn off all compatible RCA components.

PREV CH (Previous Channel)

Switches between two channels.

Select one channel and then use the number buttons to select another. Press PREV CH to switch between the two channels.

REC

Starts VCR recording.

Used for express recording (XPR).
See page 44.

REW (Rewind)

Rewinds the tape when the VCR is stopped.

Searches the picture in reverse motion during playback.

SEARCH

Displays INDEX, GO-TO, and BLANK SEARCH menus on TV.

Used during playback with the COMMERCIAL▶ADVANCE™ feature. See pages 36-37.

SLOW - / +

Used for slow-motion playback.

SPEED (Tape Speed)

Selects a recording speed (SP, LP, or SLP).

STOP

Stops the normal functions such as record, playback, rewind, fast forward, and pause.

TRACKING Up and Down

Lets you manually reduce the streaks that may appear on the picture during play or pause.

Reduces picture "jitter" during stop-action playback.

TV•VCR

Switches the picture signal so that it either comes from the VCR or the TV channel. See page 18.

TV Function Buttons

Press the TV button to set remote to control a compatible TV. Some buttons may not work with every TV.

MOVE Arrow Buttons (◀▶)

Allow you to move through the menus, enter data and change settings of selected features.

CHAN Up or Down

Selects next higher or lower channel in the TV's channel memory when remote is set to control a TV.

CLEAR

Removes menus or status displays from the screen.

DISPLAY

Shows the status displays on the screen.

Removes menus or displays from the screen.

MUTE

Turns the TV sound on or off.

Numbers (0 through 9)

Select a channel up to 99 by pressing two numbers.

Select a cable channel over 99 by pressing and holding 1 until 1-- appears on the screen. Then press the other two numbers.

PWR (Power)

Turns off a compatible TV when remote is set to control TV.

Press twice to turn off all compatible RCA components.

Used with TV button to turn on a compatible TV, other than RCA, when the remote is programmed to control that TV. See page 23.

PREV CH (Previous Channel)

Switches between two channels.

Select one channel and then use the number buttons to select another. Press PREV CH to switch between the two channels.

Used as an ENTER button on some TVs.

SLOW - / +

Used with the TV's menus to select and adjust features.

VOL Up and Down

Raises and lowers sound.

Cable Box and Satellite Receiver Function Buttons

Press the SAT•CABLE button to set remote to control a compatible cable box or satellite receiver. Some buttons may not work with every cable box or receiver. If you have a compatible RCA brand receiver, test the "TV Function Buttons" to see which ones operate the receiver.

CHAN Up or Down

Selects next higher or lower channel.

Numbers (0 through 9)

Select a channel using the number buttons.

PWR (Power)

Turns off a compatible cable box or satellite receiver when remote is set to control it.

Press twice to turn off all compatible RCA components.

Using the VCR2•DVD Button

Controlling a VCR

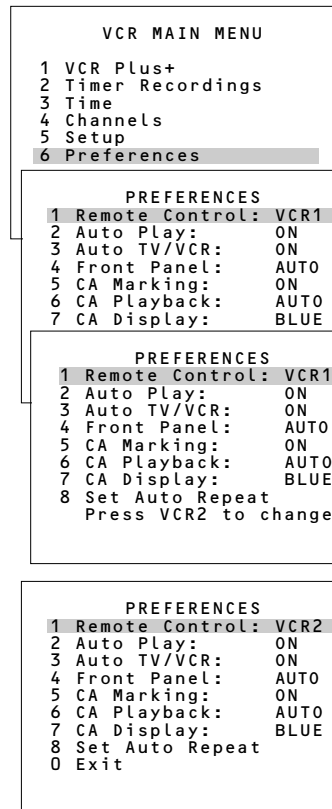
The VCR's remote controls two compatible RCA, ProScan, or GE VCRs with the VCR1 and VCR2•DVD buttons. Most compatible VCRs automatically respond to VCR1 without being programmed. If you own two compatible VCRs, test them to see if VCR1 turns on both VCRs. If it does, then you may want to program this VCR to respond to the VCR2•DVD button on the remote.

Program the VCR for Remote Control

Set the Remote Control feature of the VCR to the VCR1 or VCR2 position. The remote then controls the VCR with either the VCR1 or VCR2•DVD button — whichever position you select in the menu.

1. Press MENU•PROG to display the VCR MAIN MENU.
2. Press 6 to display PREFERENCES.
3. Press 1 to activate the Remote Control feature.
4. Press VCR1 or VCR2•DVD to change the setting and program this VCR to respond to the VCR1 or VCR2•DVD button — whichever you select.

Important Reminder: Remember you must press VCR1 or VCR2•DVD on the remote — whichever you selected in the menu — before the remote will operate this VCR.



Controlling a LaserDisc Player or DVD Component

The VCR2•DVD button on the VCR's remote will also control the primary functions of an RCA, ProScan, or GE LaserDisc player without being programmed. It can also be programmed to control an RCA DVD component using the code below. If you ever need to reprogram the remote to operate a VCR or LaserDisc player, use the code

Program the Remote Control

1. Turn on the component.
2. Point the VCR remote at the component
3. Hold the VCR2•DVD button and press three numbers buttons to enter the code for the component.
4. Release the buttons.
5. Press PWR. If the component turns off, setup is complete.

RCA, ProScan or GE Codes		
VCR	LaserDisc Player	DVD
037	037	078

Operate the Component

After you have set up your remote to control your component, test the remote buttons to see which ones operate it.

1. Point the remote at the component and press VCR2•DVD.
2. If the component does not turn on in step 1, press VCR2•DVD and then PWR.
3. Test the remote buttons to see which ones operate the component.

Controlling a TV

The VCR's remote is preprogrammed to control the basic functions of a compatible RCA, ProScan, or GE TV. The remote can also be setup to control other manufacturer's brands. To program the remote, use the remote buttons that correspond to your brand.

Program the Remote for a TV

1. Turn on the TV.
2. Point the VCR's remote at the TV.
3. Hold the TV button and press three number buttons for your brand.
4. Release the buttons.
5. Press PWR on the remote. If the TV turns off, setup is complete.
6. Repeat steps 2 – 4 with three other buttons if the first ones do not work.

TV Codes

Brand*	Code	Brand*	Code	Brand*	Code	Brand*	Code
A-Mark	.102	GE	.000,008,009,011,012,027, .038,068,086,089,091	Multivision	.081	Sharp	.011,020,025,027,037 .052,053,059,060,108
Admiral	.005,114	Goldstar	.003,004,006,011,019, .027,037,050	NAD	.018,023	Signature	.005,094
Amtron	.064	Hallmark	.011,027	NEC	.011,014,019,027,038,084	Sony	.002
Akai	.002,103	Hitachi	.009,011,027,036,037,040, .047,048,063,080,094,097,098	Panasonic	.012,013,038,086,111	Soundesign	.011,027,033
Anam	.104,105	Infinity	.013	Penney	.000,008,011,019,027,040, .068,077,086,088	Sylvania	.006,007,010,011,013,016, .027,033,035,043,049,066,087,089
Anam National	.038,106	JBL	.013	Philco	.006,007,010,011,013016,019, .027,033,035,037,038,043,087,089	Symphonic	.064,076,115
AOC	.011,019,027,088,107	Jensen	.011,027	Philips	.002,006,007,010,011,013,016, .033,035,037,038,043,066,073	Tatung	.038
Bell&Howell	.005	JVC	.012,024,036,037,040,048,051,074	Pioneer	.011,027,045,062,093,113	Technics	.012
Candle	.011,027,033	Kawasho	.002,011,027	Portland	.011,019,027,037	Techwood	.011,027
Citizen	.011,027,033,064	Kenwood	.006,011,014,027	ProScan	.000	Teknika	.011,019,027,033,036 .037,040,066
Colortyme	.011,027,084	Kloss Novabeam	.035,043	Proton	.011,027,037,072	Telecaption	.090
Concerto	.011,027	KTV	.078	Quasar	.012,038,092	TMK	.011,027
Contec/Cony	.036,037,040,042,064	Loewe	.013	Radio Shack	.000,021,025,036,037, .059,064,078	Toshiba	.018,021,023,040,071, .077,085,090
Craig	.064	Luxman	.011,027	RCA	.000,006,011,019,027,034, .038,044,046,088,100,101,109	Universal	.008,009
Curtis Mathes	.000,011,015,027,037	LXI	.000,013,018,021,023,054	Realistic	.021	Victor	.051
CXC	.064	Magnavox	.006,007,010,011,013,016, .027,033,035,043,049,066,087,089	Sampo	.011,027	Vidtech	.019,027
Daewoo	.011,019,027,012,116	Marantz	.011,013,027,069	Samsung	.006,011,014,015,019 .027,036,037,077,110	Wards	.000,005,006,007,008 .009,010,011,013,019,025,027,028, .035,043,059,066,076,082,089
Daytron	.011,027	Memorex	.005	Sanyo	.017,021,039,056,057,058	Yamaha	.006,014,019,027
Dimensia	.000	MGA	.006,011,014,019,022, .027,041,056,061,068	Scott	.028,037,064	Zenith	.001,099,114
Electrohome	.006,011,014,027,038, .061,068	Mitsubishi	.006,011,014,019,022, .027,041,055,056,061,068	Sears	.000,006,011,014,017,018,021, .023,027,039,040,041,051,071,083,095		
Emerson	.011,026,027,028,029,030, .031,032,037,042,053,064,065,067, .075,076,078,079,094,095,096	MTC	.011,019,027				
Envision	.011,027						
Fisher	.017,021,039,041						
Funai	.064						

* The remote may not be able to control every model TV of the brands listed.

Operate the TV

After you have set up your remote to control your TV, test the TV buttons to see which ones operate your TV.

1. Point the remote at the TV and press TV.
2. If TV does not turn on in step 1, press TV and then PWR.
3. Use the "TV Function Buttons" as described on page 21.

Helpful Hint: Notice the difference between the TV and VCR on-screen displays. This is one way to tell if the remote is set to control the VCR or the TV.

Controlling a Cable Box or Satellite Receiver

The SAT•CABLE button on the VCR's remote is preprogrammed to control either a compatible RCA cable box or satellite receiver. If your cable box or receiver is another manufacturer's brand and has its own remote, you will probably be able to program the VCR's remote to control it. To program the VCR's remote, enter the code that corresponds to your brand.

Program the Remote for a Cable Box or Satellite Receiver

1. Turn on the cable box or satellite receiver.
2. Point the VCR remote at the cable box or receiver.
3. Hold the SAT•CABLE button and press three number buttons to enter the code for your brand.
4. Release the buttons.
5. Press PWR on the remote. If the cable box or receiver turns off, setup is complete.
6. Repeat steps 2 – 5 with a different code if the first one does not work.

Cable Box Codes					
Brand*	Code	Brand*	Code	Brand*	Code
ABC	.022,046,053,054	Magnavox	.007,008,019,021,026,	Signature	.046
Anvision	.007,008		.028,029,032,033,040,041	Sprucer	.027
Cablestar	.007,008	NSC	.009	Starcom	.046
Diamond	.056	Oak	.001,016,038	Stargate 2000	.058
Eagle	.007,008	Oak Sigma	.016	Sylvania	.011,059
Eastern Int.	.002	Panasonic	.003,027,039,061	Teknika	.006
General Instruments	.046	Philips	.007,008,019,021,026,028,	Texscan	.010,011,059
GI 400	.004,005,015,023,024,		.029,032,033,040,041	Tocom	.017,021,049,050,055
	.025,030,036	Pioneer	.018,020,044	Unika	.031,032,041
Hamlin	.003,012,013,034,048	RCA	.000,027	Universal	.051,052,060
Hitachi	.037,043,046	Randtek	.007,008	Viewstar	.007,008,019,021,026,028
Jerrold	.004,005,015,023,024,	Regal	.003,012,013		.029,032,033,040,041
	.025,030,036, 045,046,047,062,065	Regency	.002,033	Warner Amex	.044
Macom	.037,043	Samsung	.044	Zenith	.014,042,057,061
		Sci. Atlanta	.003,022,035,063,064		

Satellite Receiver Codes					
Brand*	Code	Brand*	Code	Brand*	Code
Chaparral	.080,081	Realistic	.084	STS3	.087
Cheyenne	.081	RCA	.000	STS4	.088
Drake	.082,083	Sierra I,0II,0III	.081	Toshiba	.089
GE	.000	STS1	.085	Uniden	.090
General Instruments	.092,093,094	STS2	.086	Video Cipher II	.091

* The remote may not be able to control every cable box or satellite receiver of the brands listed.

Operate the Cable Box or Satellite Receiver

After you have setup your remote (if required) to control your cable box or receiver, test the buttons to see which ones operate it.

1. Point the remote at the cable box or satellite receiver and press SAT•CABLE.
2. If the cable box does not turn on in step 1, press SAT•CABLE and then PWR.
3. Use the "Cable Box or Receiver Function Buttons" for the cable box and test the "TV Function Buttons" to see which ones operate the satellite receiver. *See page 21.*

Controlling an Auxiliary RCA Component

The remote that came packed with your VCR is also capable of controlling one compatible RCA component, such as an AM/FM radio, CD player, tape players, phonograph, RCA digital satellite receiver, or RCA DVD component. The remote must be programmed for the specific component it is to control. To program the remote, use the code that corresponds to your component.

Program the Remote for an Auxiliary Component

1. Turn on the component.
2. Point the VCR's remote at the component.
3. Hold the AUX button and press three number buttons to enter the code for your component.
4. Release the buttons.
5. Press PWR on the remote. If the component turns off, setup is complete.

Type of RCA Auxiliary Equipment and Code								
RCA	AM/FM 003	AUX 004	Phono 005	Cassette Tape1 006	CD 007	DSS 008	Cassette Tape2 009	DVD 010

*The remote may not be able to control every RCA model of auxiliary equipment listed.

Operate the Auxiliary Component

After you have setup your remote to control your component, test the buttons to see which ones operate the component.

1. Point the remote at the component and press AUX.
2. If the component does not turn on in step 1, press AUX and then PWR.
3. Test the buttons on the remote to see which ones operate your component. Refer to the "Remote Control" section.

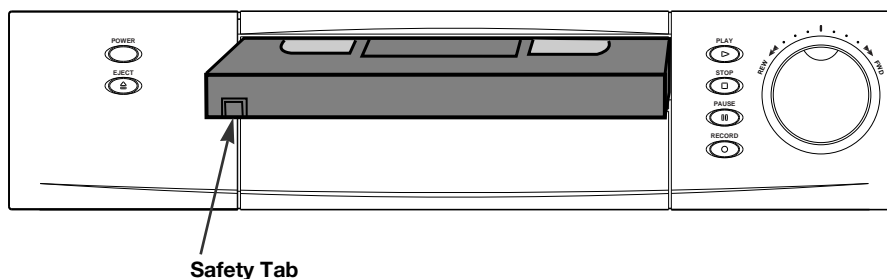
Operating Instructions

To Play a Tape

1. Turn on the TV and tune it to channel 3, 4, or TV's video input to see the picture from the VCR.

2. Insert a tape in the VCR.

VCR automatically turns on. The cassette-in () indicator lights, and the VCR indicator lights if the Auto TV/VCR feature is set to ON. The tape automatically begins playback if the safety tab on the cassette has been removed and the auto play feature is turned on.



3. Press PLAY, if necessary. PLAY appears in the VCR's display panel.
4. Press TRACKING up or down to remove any streaks from the picture, if necessary. *Details are on page 31.*
5. Press STOP.
6. Press REW on the remote or turn the shuttle ring toward REW on the VCR.

The VCR will automatically rewind the tape if it reaches the end of the tape during playback. While rewinding, you can press POWER and the VCR will turn off after rewinding.

7. Press EJECT on the VCR to eject the tape once it is completely rewound.

Using the Playback Features

Tape Playback: HI-FI/LINEAR/MIX Feature

The VCR records the same audio on both the hi-fi and linear tracks on the tape. The Hi-Fi stereo sound is recorded on separate left and right stereo channels. Monaural sound is recorded on the linear track.

To enjoy hi-fi sound, connect your VCR to a stereo television or amplifier/receiver using the audio/video jacks. The Tape Playback: HI-FI/LINEAR/MIX feature lets you select which audio you play back.

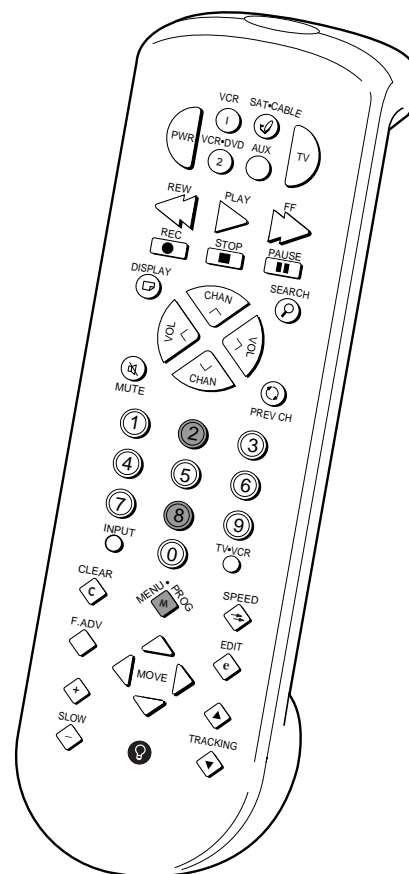
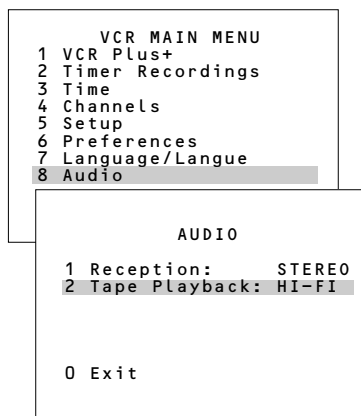
To Select Playback Sound

1. Press MENU•PROG to see the VCR MAIN MENU on the TV screen.
2. Press 8 to see the AUDIO menu on the TV screen.
3. Press 2 to switch between HI-FI, LINEAR, or MIX sound.

- Select HI-FI to play back sound recorded on the hi-fi track and for normal use.

The HIFI indicator is lit in the VCR's display panel during hi-fi playback.

- Select LINEAR to play back the sound recorded on the linear monaural track – used to playback a second audio program (SAP).
- Select MIX to play back the sound recorded on both the linear track and the hi-fi track, sound-on-sound.

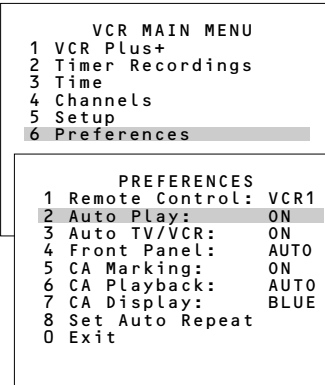


Using the Playback Features

Auto Play Feature

This feature lets you tell the VCR whether you want it to automatically start playing a tape that is inserted with the safety tab removed.

1. Press MENU•PROG on the remote to see the VCR MAIN MENU on the TV screen.
2. Press 6 to display the PREFERENCES menu.
3. Press 2 to select Auto Play: ON or OFF.
 - Select ON to have a tape with its safety tab removed start playing automatically.
 - Select OFF if you do not want a tape with its safety tab removed to start playing automatically.



Auto Repeat Feature

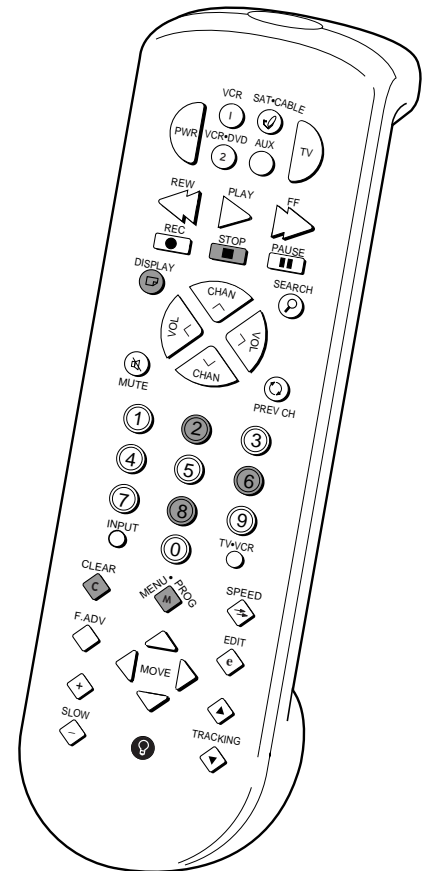
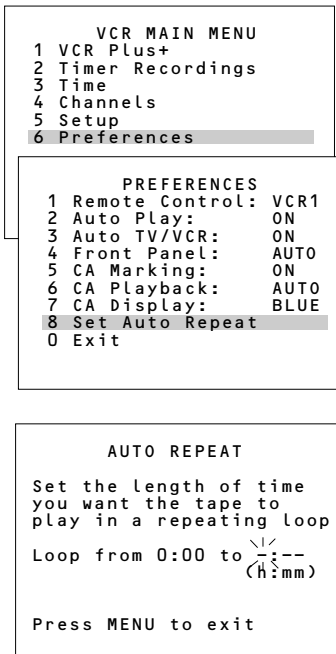
The VCR will automatically repeat a segment of tape.

1. Locate the beginning of the segment you want the VCR to repeat, and press STOP.
2. Press DISPLAY to display the time counter, and press CLEAR to reset it to 0:00:00.

3. Press MENU•PROG on the remote to see the VCR MAIN MENU on the TV screen.
4. Press 6 to display the PREFERENCES menu.
5. Press 8 to display the AUTO REPEAT menu.
6. Use the number buttons to enter the length of time (in hours and minutes) of the segment you want the VCR to repeat.
7. Press MENU•PROG to remove the menu from the screen.

The VCR will play the tape until the specified counter reading is reached, rewind the tape and replay the segment over and over.

8. To stop auto repeat, display the AUTO REPEAT menu and press CLEAR or eject the cassette.



Using the Playback Features

Pause for Stop Action

This feature stops the tape in action and allows you to examine the details of the scene. Stop action works best for tapes recorded in the SP and SLP speed.

1. Press PAUSE during playback to stop the action.
STILL appears in the VCR's display panel.
2. Press TRACKING up or down to reduce any jittering of the picture.
3. Press PAUSE or PLAY to return to playback.
The VCR will automatically switch from stop-action playback to stop after a few minutes.

Picture Search

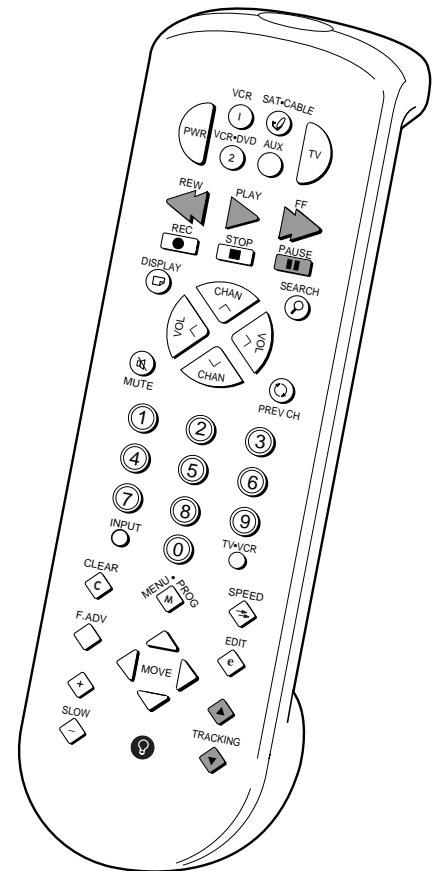
You can search a picture during playback by fast forwarding or rewinding the tape. Sound is turned off during picture search. The picture is best for tapes recorded in the SP or SLP speed.

Fast Forward Search

1. Press FF on the remote or turn the shuttle dial clockwise toward FWD on the VCR to search forward at a faster-than-normal speed.
2. To return to playback, press FF on the remote, PLAY, or turn the shuttle dial again.

Rewind Search

1. Press REW on the remote or turn the shuttle ring counterclockwise toward REW on the VCR to search in reverse at a faster-than-normal speed.
2. To return to playback, press REW on the remote, PLAY, or turn the shuttle dial again.



Using the Playback Features

Frame Advance

Frame advance lets you view one stop-action frame after another. Frame advance works best for tapes recorded in the SP or SLP speed.

1. Press PAUSE to stop the action. STILL appears in the VCR's display panel.
2. Press F.ADV each time you want to view a frame of the scene.
3. Press PAUSE or PLAY to resume normal playback.

Slow Motion

You can view the picture in slow motion during play or play pause. The SLOW – and + buttons on the remote and the shuttle dial on the VCR allow you to change the speed. Sound is turned off during slow-motion playback. Slow motion works best in the SP or SLP speed.

1. During playback, press SLOW + or – on the remote to start slow-motion playback or press PAUSE and turn the shuttle dial on the VCR in either direction.

SLOW + or – appears in the VCR's display panel.

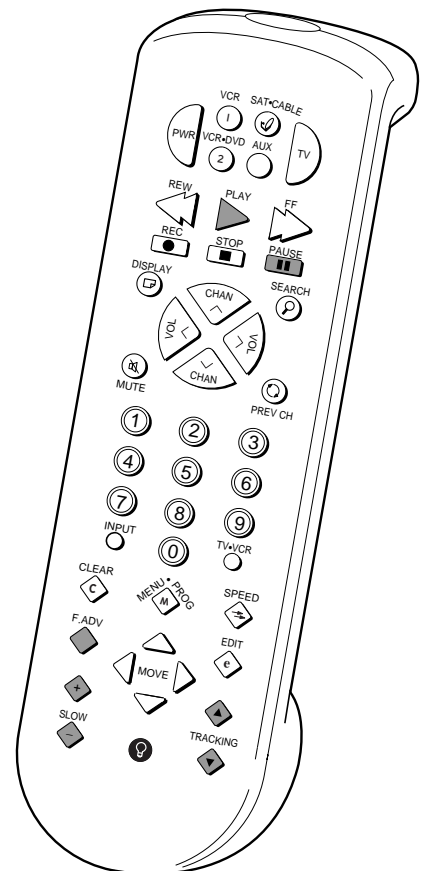
2. Press SLOW + on the remote to increase the speed or SLOW – to decrease the speed.

The speed changes with the amount the shuttle dial on the VCR is turned.

3. Use TRACKING up or down to remove any streaks from the picture.
4. Release the shuttle dial on the VCR to return to pause.

Press PLAY to return to playback.

The VCR will automatically switch from slow-motion playback to stop after a few minutes.



Using the Playback Features

Automatic Tracking

The VCR has automatic tracking which adjusts the picture when playing back a tape recorded on another VCR. Automatic tracking is turned on whenever a tape is inserted or the VCR's power is turned on.

Manual Tracking

Occasionally, you may need to manually adjust tracking on a tape recorded on a different VCR or camcorder. The TRACKING buttons on the remote or VCR are used when playing a tape. They have no effect during recording.

- When streaks or snow appear, press TRACKING up or down for the best possible picture.
- Press TRACKING up or down during stop-action pause to reduce picture "jitter".
- Press both TRACKING buttons on the VCR at the same time to turn automatic tracking back on or eject and re-insert the cassette.

Pro-Tect Plus™ Locking Feature

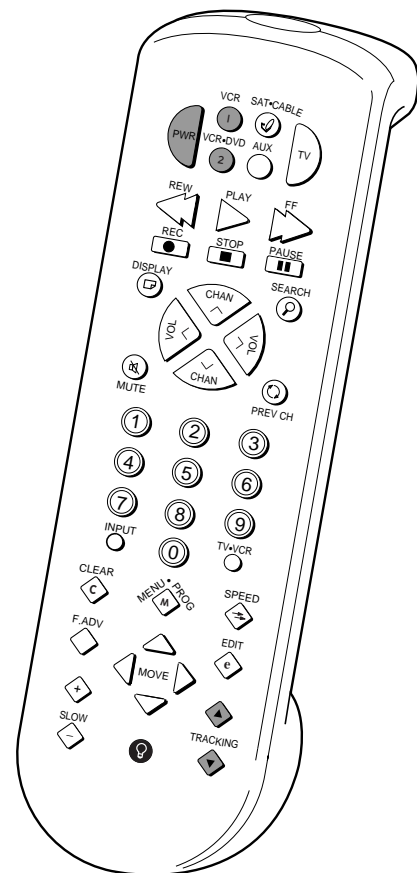
To protect your timer recordings from any unwanted changes, lock the VCR. The buttons on the VCR and remote will not operate the VCR. Just follow the directions below.

To Lock the VCR

1. Set up your VCR for a timer recording.
2. Insert a cassette with safety tab intact.
3. Place VCR in stop mode.
4. Press and hold PWR on the remote for at least six seconds until LOCK appears in the VCR's display panel.

To Unlock the VCR

Press and hold VCR1 (VCR2•DVD) on the remote until HELLO appears in the VCR's display panel to unlock the controls.



Using the Playback Features

Index Search

The VCR has a "VHS Index Search System" that automatically records an index mark on the tape every time you stop and start recording. During playback you can locate the program you want to play by the number of index marks.

The VCR will automatically locate the index number you select. The VCR will search forward or reverse from the location you are on the tape.

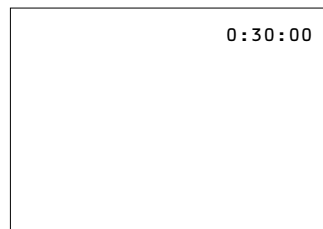
1. Insert the prerecorded tape and press STOP.
2. Press SEARCH on the remote to display the INDEX SEARCH menu on the TV screen.
3. Press two number buttons to enter the number of index marks you want the VCR to search.

Press CLEAR to correct an entry.

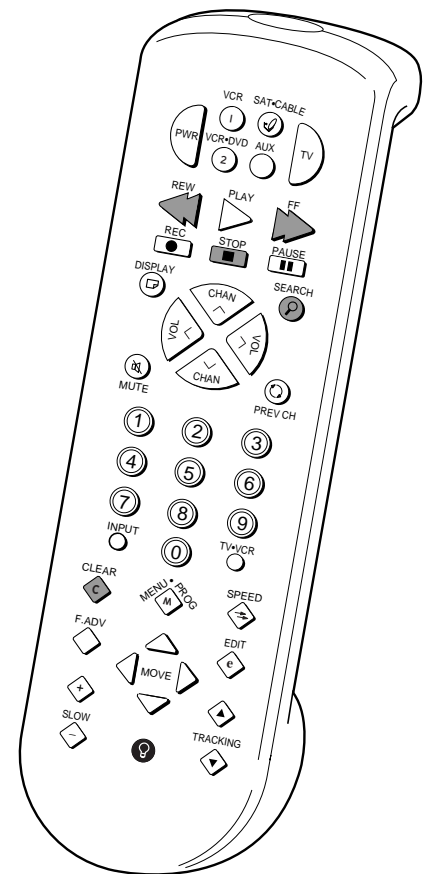
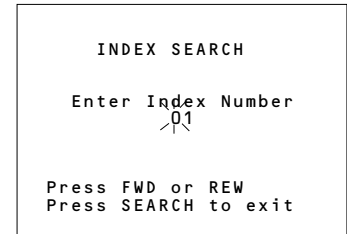
4. Press FF on remote or turn the shuttle ring clockwise toward FWD on the VCR to search forward.

Press REW on remote or turn the shuttle ring counterclockwise toward REW on the VCR to search in reverse.

The time counter is displayed in the upper right corner of the TV screen during search.



5. Press STOP to stop index searching.
- Some index marks may be missed by the VCR.
- A mark too close to your location on the tape.
 - The mark at the beginning of a recorded segment of five minutes or less.
 - The first index mark on the tape when you start at the beginning of the tape.

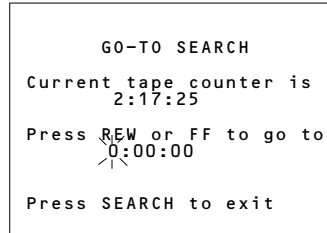


Using the Playback Features

Go-To Search

The go-to search feature allows you to locate a counter reading on the tape.

1. Insert the prerecorded tape and press STOP.
2. Press SEARCH on the remote twice to display the GO-TO SEARCH menu on the TV screen.



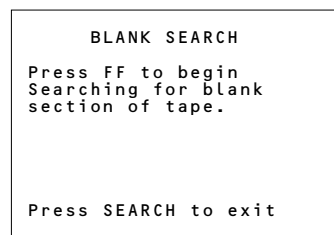
3. Press number buttons to enter the hour(s) and minute(s) of the time counter reading you want the VCR to search.
Press CLEAR to correct an entry.
4. Press FF on remote or turn the shuttle ring clockwise toward FWD on the VCR to search forward.
Press REW on remote or turn the shuttle ring counterclockwise toward REW on the VCR to search in reverse.

The time counter is displayed in the upper right corner of the TV screen during search.
5. Press STOP to stop go-to searching.

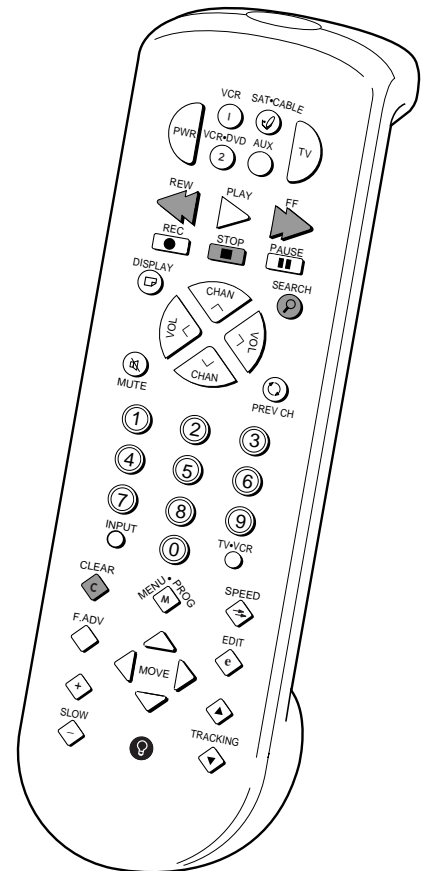
Blank Search

The VCR searches for blank portions of the tape that are more than six seconds in length.

1. Insert the tape and press STOP.
2. Press SEARCH on the remote three times to display the BLANK SEARCH menu on the TV screen.



3. Press FF to begin searching for six seconds of blank tape. A message appears on the screen if a blank area is not found.
4. Press STOP to stop blank searching.



Using the Playback Features

DISPLAY Button

1. Press DISPLAY to display the status of the VCR, channel number, station ID (if available), time counter, title of program (if available), date, time, and tape speed on the TV screen. The time will appear in the display panel.

The time and date must be set before they are displayed. If you do not press DISPLAY again, these displays will time out.

2. Press DISPLAY again to display information about the program that is playing (if available).

If program information is not available, Title Unavailable will appear.

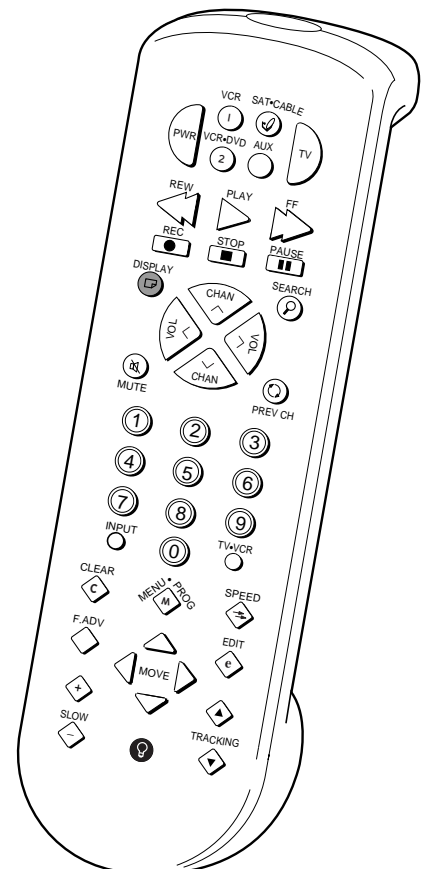
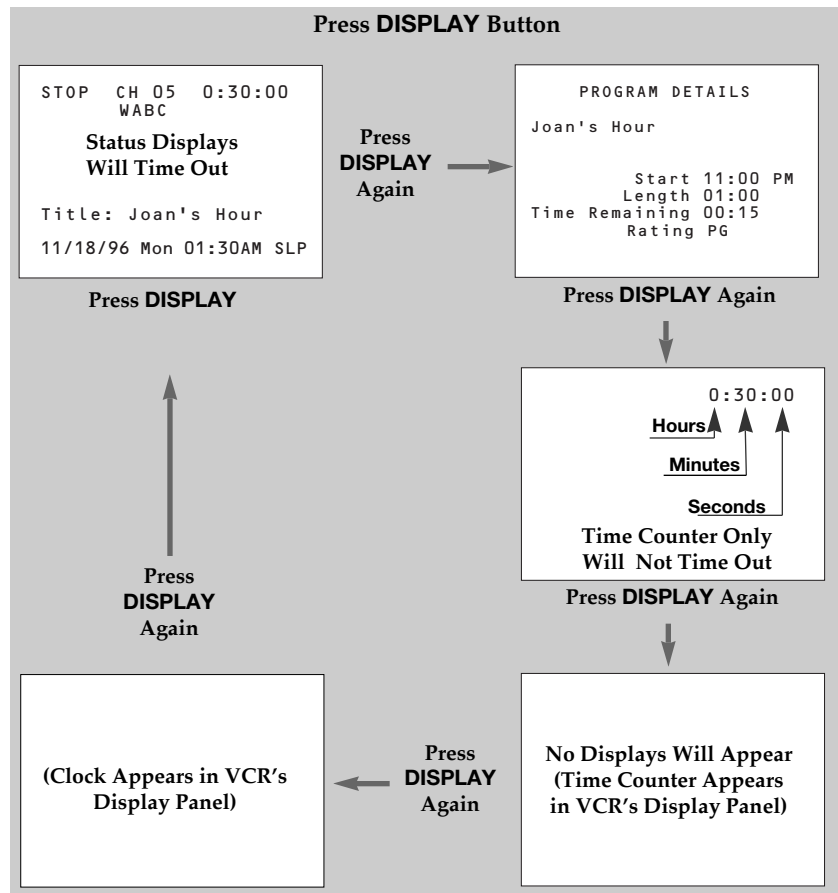
3. Press DISPLAY again to have only the time counter remain on the TV screen. The time counter will appear instead of the time in the VCR's display panel.

4. Press DISPLAY again to remove the time counter from the TV screen.

The time counter will remain in the VCR's display panel and no status displays will appear on the TV screen. This is convenient for editing tapes.

5. Press DISPLAY again. No displays will appear on the screen. The clock will appear in the display panel.

Turning off the VCR returns the displays to normal.



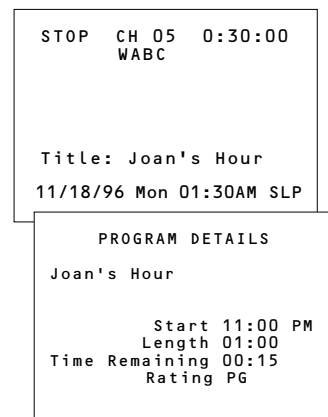
Using the Playback Features

Program Information

Some stations broadcast program information along with the program. When this information is available, it will be displayed automatically when you press the DISPLAY button.

1. Press DISPLAY to display the status displays on the TV screen. The title of the program and station ID will appear if they are available.
If program information is not available, Title Unavailable will appear.
2. Press DISPLAY again to display information about the program (start time, length, time remaining and rating) on the screen. This display will time out automatically if no button is pressed, or:

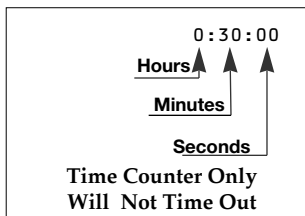
Press DISPLAY three times to remove the PROGRAM DETAILS screen from the TV. The clock will appear in the VCR's display panel.



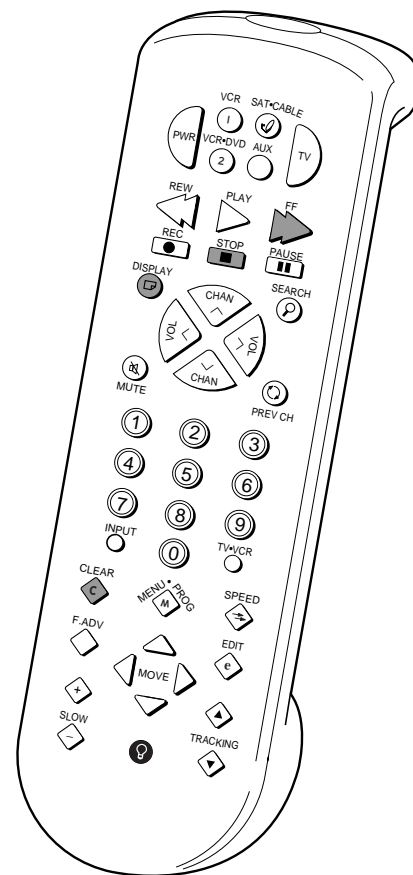
Time Counter

The time counter shows the actual time it takes to record a program or play back a segment of a prerecorded tape. It helps locate the beginning or end of programs you taped. The time counter resets to 0:00:00 whenever the tape is ejected from the VCR. For example, if a 30-minute program was recorded at the beginning of the tape, you would:

1. Insert the prerecorded tape. Press STOP. Make sure the tape is rewound.
2. Press DISPLAY three times to display only the time counter on the TV screen.



3. Press CLEAR to reset the time counter to 0:00:00.
4. Press FF on remote or turn the shuttle on the VCR clockwise to fast forward the tape until the time counter reads 0:30:00. Press STOP.
This is the approximate end of the program and you can begin recording at this spot.
5. Press DISPLAY twice to remove the time counter from the screen. The clock will appear in the VCR's display panel.



Recording and Playback

COMMERCIAL▶▶ADVANCE™ is a patented technology that detects and marks most commercials on your tape for any recording that is more than 15 minutes long. During playback, the VCR automatically skips the detected commercial segments or you can choose to manually skip them. This feature reduces three minutes of commercials into approximately 8-12 seconds of fast forwarding in the SLP speed. You can select a background of blue or see the video as the commercials are skipped.

After recording, the VCR rewinds the tape to the beginning of the recording and determines where the commercials are located. It then marks the beginning and end of the detected commercial segments and returns the tape to the end of the recording. *It does not erase the commercials from the tape.*

Because television signals do not indicate where commercials are located, this feature finds and marks them through a set of formulas based on how television is broadcast today. Since television stations broadcast differently and insert their own commercials, you may experience some variations in this feature's effectiveness. Station promotions, identifications, and announcements are not considered commercials — but might be skipped.

See page 57 for answers to common questions about COMMERCIAL ▶▶ADVANCE™.

COMMERCIAL▶▶ADVANCE™ Marking

1. Press MENU•PROG to display the VCR MAIN MENU.
2. Press 6 to display the PREFERENCES menu.
3. Make sure CA Marking is set to ON. If not, press 5.

The VCR will mark most commercials for the following types of recording:

- **VCR Plus+, Timer, or Express Recording:** The VCR will automatically mark the commercials after the power is turned off.
- **Manual Recording:** When you press STOP to stop recording, the VCR will ask you if you want to mark the commercials. Just follow the on-screen display.

MARK and COMM alternate in the display panel while the VCR is marking commercials.

To Stop COMMERCIAL▶▶ADVANCE™ Marking

Press STOP to cancel commercial marking.

To Turn Off Marking

For special VCR use (such as editing or copying) or if you decide not to use this feature, turn COMMERCIAL▶▶ADVANCE™ marking (CA Marking) off.

1. Press MENU•PROG to display the VCR MAIN MENU.
2. Press 6 to display the PREFERENCES menu.
3. Press 5 to select CA Marking: OFF.

The VCR will not mark the commercials.

```
VCR MAIN MENU
1 VCR Plus+
2 Timer Recordings
3 Time
4 Channels
5 Setup
6 Preferences
```

```
PREFERENCES
1 Remote Control: VCR1
2 Auto Play: ON
3 Auto TV/VCR: ON
4 Front Panel: AUTO
5 CA Marking: ON
6 CA Playback: AUTO
7 CA Display: BLUE
8 Set Auto Repeat
0 Exit
```

The VCR is waiting to mark commercials in the program you recorded.

```
1 Mark them now
2 Mark them later
3 Don't mark commercials
```

The VCR will begin marking in 30 seconds...

Marking Commercials...
Press STOP to cancel

```
PREFERENCES
1 Remote Control: VCR1
2 Auto Play: ON
3 Auto TV/VCR: ON
4 Front Panel: AUTO
5 CA Marking: ON
6 CA Playback: AUTO
7 CA Display: BLUE
8 Set Auto Repeat
0 Exit
```

COMMERCIAL▶▶ADVANCE™ is a trademark of Arthur D. Little Enterprises, Inc. A Jerry Iggulden invention licensed by Arthur D. Little Enterprises, Inc.

Recording and Playback

To Select a Background for Playback

1. Press MENU•PROG to display the VCR MAIN MENU.
2. Press 6 to display the PREFERENCES menu.
3. Press 7 to select CA Display: BLUE or VIDEO.
 - Select BLUE to have the VCR display a blue screen while it advances through the block of marked commercials.
 - Select VIDEO to have the VCR display the video as it advances through the block of marked commercials.

```

PREFERENCES
1 Remote Control: VCR1
2 Auto Play: ON
3 Auto TV/VCR: ON
4 Front Panel: AUTO
5 CA Marking: ON
6 CA Playback: AUTO
7 CA Display: BLUE
8 Set Auto Repeat
0 Exit
    
```

To Play Back a Recording Made Using COMMERCIAL▶ADVANCE™

1. Press MENU•PROG to display the VCR MAIN MENU.
2. Press 6 to display the PREFERENCES menu.
3. Press 6 to select CA Playback: AUTO or MANUAL.
 - Select AUTO to have the VCR automatically advance through the blocks of marked commercials.

It works with most 30, 45, and 60-second commercials.

A commercial group starting within the first two minutes or last two minutes of a recording will not be automatically skipped.

A commercial will not be skipped if the recording starts in the middle of a commercial segment, one isolated commercial is shown without others, or a commercial is longer than one minute. Press FF to scan through the commercial.

It is possible that part of a recorded program might be skipped if the program segment is between commercials and less than one minute or there are frequent dark and quiet scenes. If part of the program is skipped, rewind the tape to the beginning of the skipped program segment and press PLAY.

- Select MANUAL and the VCR will not advance through the blocks of marked commercials until you press SEARCH.

The VCR will resume playback when it reaches the end of the marked commercials.

If you press SEARCH during playback of material other than commercials, the VCR will still advance to the end of the next "marked" commercial block and resume playback.

```

VCR MAIN MENU
1 VCR Plus+
2 Timer Recordings
3 Time
4 Channels
5 Setup
6 Preferences
    
```

```

PREFERENCES
1 Remote Control: VCR1
2 Auto Play: ON
3 Auto TV/VCR: ON
4 Front Panel: AUTO
5 CA Marking: ON
6 CA Playback: AUTO
7 CA Display: BLUE
8 Set Auto Repeat
0 Exit
    
```

Types of Recordings

Your VCR provides different types of recording. These types are explained in the following sections:

Basic Recording – Operating Instructions

Recording While You're Away

VCR Plus+ Recording

Timer Recording

Express (XPR) Recording

Recording Broadcast Stereo TV or SAP (Second Audio Program)

Recording Audio Only

Using Two VCRs for Copying Tapes

Using the Recording Features

Recording Speeds

Press **SPEED** on the remote to select a recording speed (SP, LP, or SLP). The speed you select appears on the TV screen and in the VCR's display panel. The VCR automatically selects the playback speed (SP, LP, or SLP).

Cassette Type	Recording Time		
	SP	LP	SLP
T120	2Hr	4Hr	6Hr
T160	2Hr 40Min	5Hr 20Min	8Hr

SP (Standard Play) gives the best quality recording. That is why most prerecorded, rental tapes are recorded in SP. Fewer programs can be recorded on the tape. Special effects such as pause, slow motion, picture search, and frame advance work well.

LP (Long Play) gives twice the recording time of tapes recorded in SP. Special effects in playback are not recommended in LP.

SLP (Super Long Play) gives three times the recording time of tapes recorded in SP. Special effects such as pause, slow motion, picture search, and frame advance work well.

Recording Pause

This feature allows you to prevent recording short passages of unwanted material.


Press **PAUSE** during recording to stop and start recording. **REC P** appears in the VCR's display panel.

The VCR will automatically switch from pause to stop after a few minutes.

Basic Recording – Operating Instructions

To Make a Recording

Turn on the TV and tune it to the VCR viewing channel, either 3, 4, or TV's video input channel.

1. Insert a tape with safety tab in place.
The cassette-in indicator () lights in the VCR's display panel.
2. Press VCR1 (VCR2•DVD) to set remote to control VCR.
3. If using one of the basic hookups, make sure the VCR indicator appears in the VCR's display panel. If not, press TV•VCR to turn it on.
4. Select recording speed using SPEED on the remote.
The tape speed indicator appears in the VCR's display panel and on the TV screen.
5. Select the channel to be recorded.
The channel number appears in the VCR's display panel and on the TV screen.
6. Press RECORD on the VCR or REC on the remote to begin recording. REC appears in the VCR's display panel while the VCR is recording.

Watch a TV Channel While VCR is Recording a Different Channel

1. Follow steps 1 through 6 above.
2. If using one of the basic hookups, press TV•VCR to switch to the TV channel. The VCR indicator will turn off in the display panel.
3. Press TV to set the remote to control TV functions for a compatible TV.
4. Select the channel you want to watch with the TV's channel buttons.
5. Press STOP when recording is finished.

Recording While You're Away (VCR Plus+* Recording)

VCR Plus+ Setup for Antenna, Unscrambled Cable Systems (Not Requiring a Cable Box), or Cable Box VCR Can Control

A VCR Plus+ channel number is assigned for each broadcast or cable channel. These numbers are listed in most publications that list PlusCode* numbers.

1. Prepare the worksheet on the opposing page for the VCR Plus+ channels that are different than the channels you receive them on. Refer to the chart below for standardized VCR Plus+ channel numbers.

Broadcast or Cable-TV Station Name	VCR Plus+ Channel Number	Channel Number You Receive This Station On
HBO	33	See Note 1
ESPN	34	See Note 1
ABC	See Note 2	See Note 1
FOX	See Note 2	See Note 1

Note 1: Check your local or cable listing for the channel number you receive this station on.

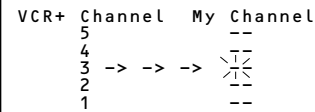
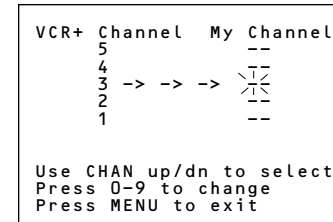
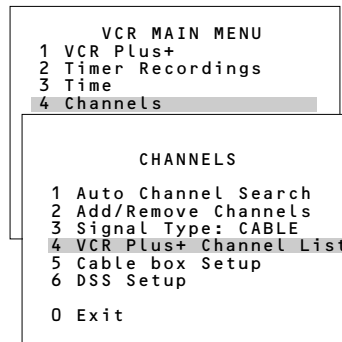
Note 2: Check your local listing for the broadcast or VCR Plus+ channel number assigned to this station.

2. Press MENU•PROG on the remote to display the VCR MAIN MENU on the TV screen.
3. Press 4 to display CHANNELS menu.
4. Press 4 to display VCR Plus+ Channel List menu.
5. Using your worksheet, press two numbers to enter each channel number you receive on a different channel than the assigned VCR Plus+ channel number.

Press CHAN up or down to move the numbers up or down on the menu.

Press CLEAR on the remote to erase a number.

6. Press MENU•PROG when you are finished.
Auto channel search must be performed before setting the VCR Plus+ channel list.



Use CHAN up/dn to select
Press 0-9 to change
Press MENU to exit

Standardized VCR Plus+ Channel Numbers for Cable-TV

U.S.A. List		Canadian List	
35 American Movie Classics	58 The Movie Channel	67 Allarcom Pay Television/Superchannel	65 MeteoMedia/The Weather Network
39 Arts & Entertainment	48 Music Television	44 Arts & Entertainment	48 MuchMusic Network
57 Black Entertainment	49 The Nashville Network	72 Cable News Network-Headline News	55 MusiquePlus
54 Bravo	38 Nickelodeon	61 Cable News Network	52 Nashville Network
42 Cable News Network	64 Nostalgia Television	70 Canadian Home Shopping Network	73 Newsworld/CBC
45 Cinemax	99 Quality Value Cable	56 Canal Famille	53 Le Reseau des Sports
98 Cinemax 2	41 Showtime	69 Cathay International Television Inc	43 The Sports Network
37 The Discovery Channel	97 Showtime 2	68 Chinavision Canada Corp	64 Super Ecran
53 The Disney Channel	59 Sports Channel	60 Country Music Television	37 Super Ecran B
63 Entertainment Television	52 Turner Network Television	63 Family Channel	98 Super Ecran C
34 ESPN Sports Network	44 USA Network	62 First Choice	66 Telatino Network
47 The Family Channel	62 Video Hits 1	96 First Choice Two	46 TV5 Montreal
33 Home Box Office	93 Viewer's Choice 1	97 First Choice Three	92 Viewer's Choice 1
95 Home Box Office 2	94 Viewer's Choice 2	99 First Choice Four	93 Viewer's Choice 2
96 Home Box Office 3	55 WGN Chicago	90 House of Commons	94 Viewer's Choice 3
51 The Learning Channel	43 WTBS Atlanta	91 La Chaîne Francaise	95 Viewer's Choice 4
46 Lifetime	60 WWOR New York	51 The Learning Channel	71 Vision TV: Canada's Faith Network
			38 Youth TV, Canada Inc

*VCR Plus+ and PlusCode are trademarks of Gemstar Development Corporation.

VCR Plus+™ Channel Worksheet

Use this worksheet to create a list from which you can set up your VCR Plus+ channel list.

Broadcast or Cable TV Station Name (Such as ABC, NBC, CBS, etc.)	VCR Plus+ Channel Number* (See Standardized VCR Plus+ Channel Chart)	Channel Number You Receive This Station On**

*Check your local listing for VCR Plus+ channel numbers assigned to network stations.
**Check your local or cable listing for the channel numbers to enter in this column.

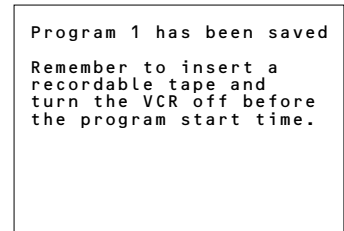
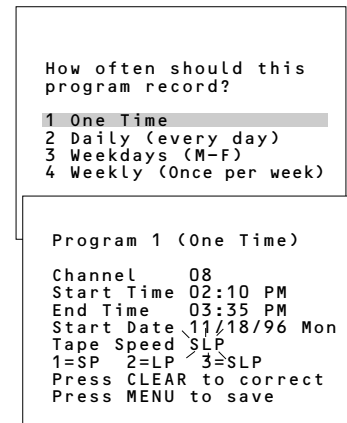
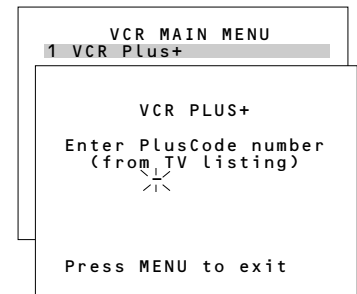
Recording While You're Away (VCR Plus+ Recording)

The VCR Plus+ and timer program features let you program the VCR to record up to eight different programs within a one year period. Before using VCR Plus+ to record a program, make sure that:

- The clock is set correctly.
- A tape with safety tab has been inserted with enough tape to record the programs.
- The remote is set to control the VCR — using VCR1 (VCR2•DVD).
- The VCR is setup for VCR Plus+ programming.
 - If you receive all channels through a cable box, setup the cable box as *shown on pages 11-13*.
 - If you have an antenna, cable system not requiring a cable box, or a cable box this VCR can control, complete VCR Plus+ setup *on page 40*.

Setting a VCR Plus+ Recording

1. Press MENU•PROG on the remote to display the VCR MAIN MENU on the TV screen.
2. Press 1 to display the VCR PLUS+ menu.
3. Press numbers on the remote to enter the PlusCode number for the program you want to record. PlusCode numbers are found in most local TV listings.
Press CLEAR on the remote to correct an entry.
4. Press MENU•PROG to enter the program.
If the VCR does not recognize the PlusCode number, Unrecognized number... Please re-enter appears on the TV screen. Check the number and enter it again.
5. Press 1, 2, 3, or 4 to select type of program.
 - 1 One Time – single program recorded once.
 - 2 Daily – program recorded at same time every day.
 - 3 Weekdays – program recorded at same time Monday through Friday.
 - 4 Weekly – program recorded at same time once a week.
6. Select recording speed using SPEED on the remote.
7. Press CLEAR if you want to change the program end time.
This feature allows you to extend the recording time on VCR Plus+ programs. This option may be useful when recording programs such as sporting events that could go past scheduled broadcast times.
8. Press MENU•PROG to enter your program. A reminder appears which will time out.
PROGRAMS OVERLAP may appear on the screen if you entered two programs where the times overlap.
9. The TIMER RECORDINGS menu appears. Press 3 to enter an additional VCR Plus+ program, or press 0 to exit.
10. **Turn off the VCR** before recording time.
TIMER appears in the VCR's display panel when the timer has been programmed.
11. If using a cable box, leave it turned on. If the VCR cannot control the cable box, tune it to the channel you want to record.



Stopping a Recording in Progress

With the VCR: Press POWER and then STOP within a few seconds.

With the Remote: Press VCR1 (VCR2•DVD) and then STOP within a few seconds.

Note: Timer programs will not be erased during power outages. To clear a program, see page 44.

Recording While You're Away (Timer Recording)

The VCR Plus+ and timer program features let you program the VCR to record up to eight different programs within a one year period. Before setting the timer, make sure that:

- The clock is set correctly.
- A tape with safety tab has been inserted with enough tape to record the programs.
- The remote is set to control the VCR — using VCR1 (VCR2•DVD).
- If you receive all channels through a cable box or satellite receiver, setup the cable box or satellite receiver *on pages 11-13*.

Setting a Timer Recording

1. Press MENU•PROG on remote to display VCR MAIN MENU.
2. Press 2 to display TIMER RECORDINGS menu.
3. Press 1 to display Create a New Program menu.
4. Press 1, 2, 3, or 4 to select type of program.
 - 1 One Time — single program recorded once.
 - 2 Daily — program recorded at same time every day.
 - 3 Weekdays — program recorded at same time Monday through Friday.
 - 4 Weekly — program recorded at same time once a week.
5. Press number buttons on the remote to enter the channel number (or INPUT to select line input), start time including AM or PM, end time, and start date of the recording. Just follow the on-screen prompts.

Press CLEAR to correct an entry.

Channels with numbers less than 100 will record from the cable box or antenna connection. Channels with numbers 100 and over will record from the corresponding DSS channel.
6. Select recording speed using SPEED on the remote.
7. Press MENU•PROG to enter your program. A reminder appears which will time out or you can press MENU•PROG to return to the VCR MAIN MENU.

PROGRAMS OVERLAP may appear on the screen if you have entered two programs where the times overlap.
8. The TIMER RECORDINGS menu appears. Press 1 to enter an additional timer program, or press 0 to exit.
9. **Turn off the VCR** before recording begins.

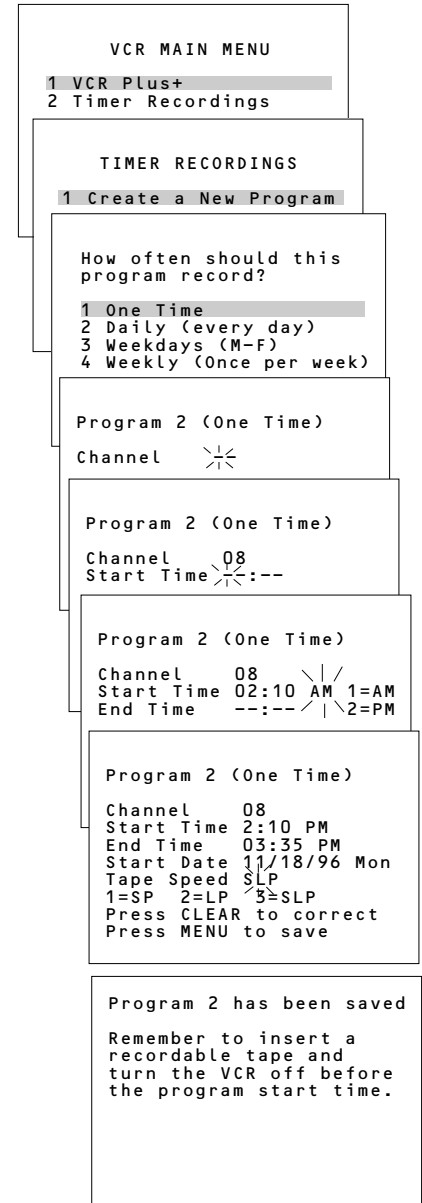
TIMER appears in the VCR's display panel when the timer has been programmed.
10. If using a cable box, leave it turned on. If the VCR cannot control the cable box, tune it to the channel you want to record.

Stopping a Recording in Progress

With the VCR: Press POWER and then STOP within a few seconds.

With the Remote: Press VCR1 (VCR2•DVD) and then STOP within a few seconds.

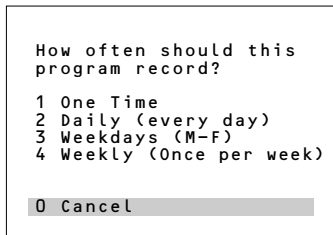
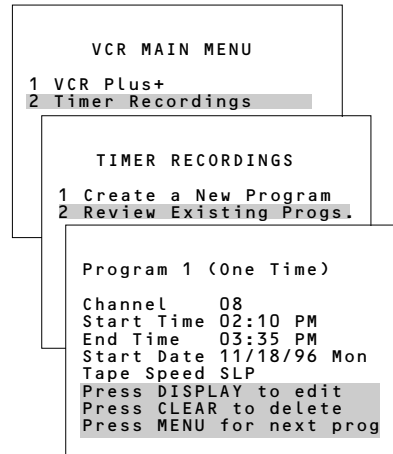
Note: Timer programs will not be erased during power outages. To clear a program, *see page 44*.



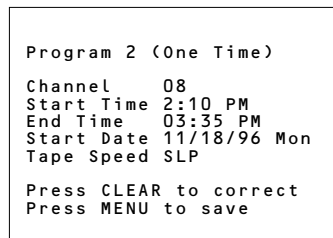
Recording While You're Away

Check, Edit, or Clear a VCR Plus+ or Timer Recording

1. Press MENU•PROG on remote to display VCR MAIN MENU on TV screen.
 2. Press 2 to display the TIMER RECORDINGS menu.
 3. Press 2 for Review Existing Progs. feature.
- The first program in the timer is displayed.
- **Check the Programs:** Press MENU•PROG to display information for the next program.
 - **Edit the Program:** Press DISPLAY to edit the program. The frequency menu appears first so you can change how often you want to record the program.



Press a number button to select the type of program you want to record.



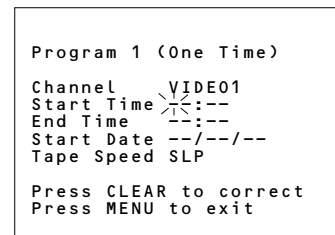
Edit the rest of the program using the CLEAR and number buttons.

- **Clear the Program:** Press CLEAR when the program appears.

Timer Recording From the VCR's Line Input

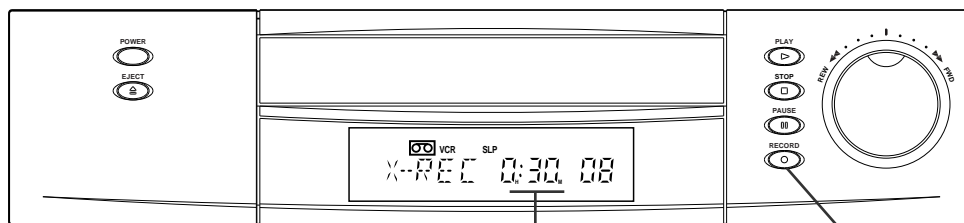
The line input refers to the signal coming from the AUDIO and VIDEO IN jacks of the VCR. Recording from the line input is convenient if you have a satellite receiver or similar component attached to these jacks. To timer record from the component connected to the VCR's line input:

Press INPUT to enter the channel number when you program the timer. Enter VIDEO1 to record from the jacks on the back of the VCR or VIDEO2 to record from the jacks on the front of the VCR.



Express Recording (XPR)

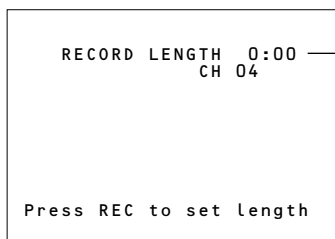
Express recording lets you record up to four hours without using the timer program feature. The VCR will turn off automatically at the end of the recording.



Operating Instructions

1. Turn on the VCR.
2. Insert a tape with safety tab in place.
3. Select the channel you want to record.
4. Select the desired recording speed using SPEED on the remote.
5. Press RECORD twice on the VCR or REC twice on the remote to activate express recording.
6. Repeatedly press RECORD on the VCR or REC on the remote until the amount of recording time for the program is displayed in the VCR's display panel or on the TV screen.

Press RECORD	Recording Time
0:30	(30 Min)
1:00	(1 Hr)
1:30	(1 Hr, 30 Min)
2:00	(2 Hrs)
3:00	(3 Hrs)
4:00	(4 Hrs)
	(Normal Recording)
0:00	(Stops)

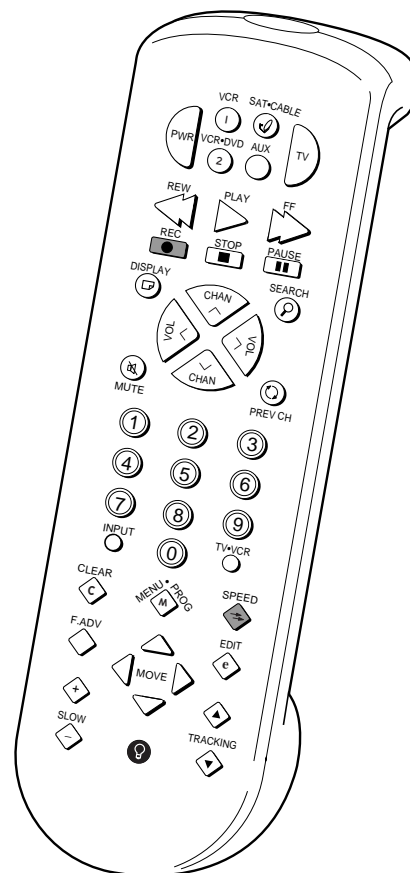


Express Display on TV Screen

Each press increases the time — 30 minutes up to four hours.

The amount of time the VCR will record and X- REC will appear in the VCR's display panel.

You can increase the amount of recording time by pressing REC on the remote or RECORD on the VCR.



Stopping a Recording in Progress

With the VCR: Press POWER and then STOP within a few seconds.

With the Remote: Press VCR1 (VCR2•DVD) and then STOP within a few seconds.

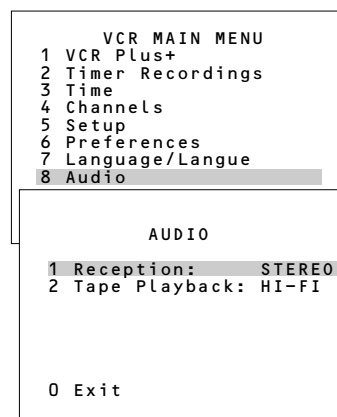
Recording Broadcast Stereo TV or SAP (Second Audio Program)

Some TV programs are broadcast with stereo audio or a second audio language (SAP). The Reception: STEREO/MONO/SAP feature lets you select the type of audio you want to record.

To Record Stereo Broadcast TV or SAP

Turn on the TV and tune it to the VCR viewing channel, either 3, 4, or TV's video input.

1. Insert a tape with safety tab in place.
2. If using one of the basic hookups, make sure the VCR indicator appears in the VCR's display panel. If not, press TV•VCR to turn it on.
3. Use SPEED on the remote to select a recording speed. The tape speed indicator appears in the VCR's display panel and on the TV screen.
4. Select the channel or line input to be recorded. The channel number, VIDEO1, or VIDEO2 appears on the TV screen.
5. Set the Reception: STEREO/MONO/SAP feature for the type of audio you want to record.
 - A. Press MENU•PROG to display the VCR MAIN MENU on the TV screen.
 - B. Press 8 to display the AUDIO menu.
 - C. Press 1 to select the type of audio Reception: STEREO, MONO, or SAP.
 - Set to STEREO for normal recording and to record broadcast stereo TV. The STEREO indicator lights in the VCR's display panel when the station you are tuned to is broadcasting stereo.
 - Set to MONO if the stereo signal is weak and the sound is too "noisy".
 - Set to SAP to record SAP (second audio program) instead of the main audio on the linear track. The main (or normal) audio will still be recorded on the hi-fi tracks. The SAP indicator (■) lights in the VCR's display panel. Set the Tape Playback: HI-FI/LINEAR/MIX feature to LINEAR to hear SAP. *Details are on page 27.*
 - D. Repeatedly press 0 to remove the menus from the TV screen.
6. Press REC on remote or RECORD on the VCR to start recording. REC appears in the VCR's display panel.
7. Press STOP when you are finished.



Recording Audio Only

You can record audio only from another audio source connected to the AUDIO IN (L MONO and R) jacks on the back or front of the VCR. Any video on the tape will be erased when you record audio only.

To Record Audio Only

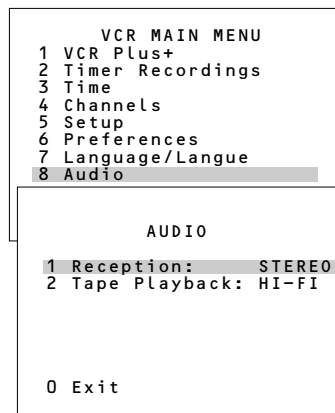
1. Press the INPUT button to select a line input.

Press INPUT once to record from the back AUDIO IN jacks. L1 appears in the VCR's display panel.

Press INPUT twice to record from the front AUDIO IN jacks. L2 appears in the VCR's display panel.

The VCR will record audio from the audio equipment connected to the AUDIO IN jacks.

2. Use SPEED on the remote to select the recording speed.
The tape speed indicator appears in the VCR's display panel.
3. Make sure the Reception: STEREO/MONO/SAP feature is set to STEREO.
 - A. Press MENU•PROG to display the VCR MAIN MENU on the TV screen.
 - B. Press 8 to display the AUDIO menu.
 - C. Press 1 to select Reception: STEREO.
4. Start audio source playing and press REC on remote or RECORD on the VCR to begin recording.
REC appears in the VCR's display panel.
5. Press STOP when you are finished.



Using Two VCRs for Copying and Editing Tapes

Operating Instructions (Refer to hookup on page 8.)

Use this VCR as the playback VCR and the other as the recording VCR. If you have two compatible VCR's, use the AutoEdit feature *described below*.

Caution: The unauthorized recording of television programs and other materials may infringe the rights of others.

1. Turn on the TV and VCRs.
2. Tune TV to the VCR viewing channel, either 3, 4, or TV's video input.
3. If you have connected your VCR using Option A (*page 8*), tune recording VCR to channel 3 or 4 — the one selected on the back of the playback VCR.

If you have connected your VCR using Option B (*page 8*), press INPUT on recording VCR to select the line input. Select L1 to record from the jacks on the back or L2 to record from the jacks on the front.

4. Insert the tape you want to copy into playback VCR. Insert a blank tape with safety tab in place into recording VCR.
To prevent recording on-screen displays from the playback VCR, press DISPLAY four times. *See page 34 for details.*
5. Press PLAY, then PAUSE on playback VCR when you reach the point on the tape or program where you want to begin copying. If the tape was not recorded on the playback VCR, streaks may appear and you may need to adjust tracking.
6. Press RECORD, then PAUSE, on recording VCR.
7. Press PAUSE buttons on both VCRs at the same time to begin copying the tape.*
8. Edit out segments that you do not want to copy by pressing PAUSE on recording VCR to stop copying the tape. Then locate the next segment you want to copy on the playback VCR by using FWD, REW, and PLAY. Press PAUSE on the playback VCR. Press PAUSE **at the same time** on both VCRs to resume copying.
9. Press STOP on both VCRs when you are finished.

* You may turn off the TV after the recording has started as it does not have to be on to copy a tape.

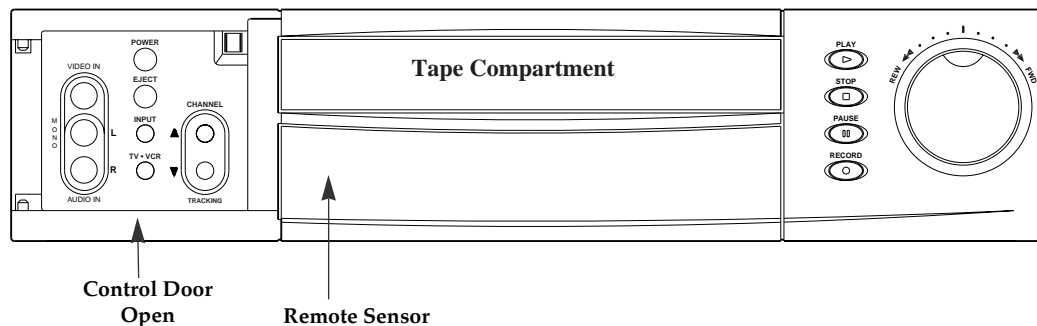
Using Dual Remote with AutoEdit™

Use this VCR as the playback VCR and set it to respond to VCR2•DVD on the remote *as described on page 22*. Use your other compatible VCR as the recording VCR, which should respond to VCR1.

1. Follow steps 1 – 4 in the “Operating Instructions” above.
2. Press VCR1 on remote to control recording VCR. Press RECORD, then PAUSE, to put recording VCR in pause mode.
3. Press VCR2•DVD on remote to control playback VCR.
4. Use FF, REW, and PLAY to locate the point where you want to begin copying. Press PAUSE while VCR is playing to put playback VCR in pause mode.
5. Press EDIT on remote to start the VCRs copying.
6. Press EDIT again when you want to stop the tape from copying.
7. Repeat steps 4 – 6 as needed.
8. Press VCR1, STOP, then VCR2•DVD, STOP, when you are finished.

Location of Controls

Front Panel



AUDIO IN L•MONO and R Jacks

Receives audio signals from another component, like a VCR or camcorder when it is connected to these jacks.

Attach a component that is not stereo to the L•MONO jack to hear sound on both channels.

Select L2 to record from these jacks.

CHANNEL/TRACKING Up or Down

Selects next higher or lower channel in the VCR's channel memory.

Adjusts tracking when a tape is playing.

EJECT

Press when the VCR is stopped to eject the cassette.

INPUT

Turns the line input on or off. L1 or L2 appears in VCR's display panel and VIDEO1 or VIDEO2 appears on the TV screen.

Line input refers to the signal coming from the component connected to the audio/video input jacks on the back (L1) or front of the VCR (L2).

PAUSE

Pauses action for viewing during playback.

Pauses recording to prevent recording of unwanted scenes.

PLAY

Plays a tape.

POWER

Turns the VCR on or off.

RECORD

Starts VCR recording.

Used for express recording (XPR).

Remote Sensor

Receives signals from the remote control.

Aim the remote at this sensor with no objects between them.

Shuttle Dial

Rewinds and fast forwards the tape when the VCR is stopped.

Plays the picture in variable-speed slow motion during play pause.

Searches the picture in forward and reverse during playback.

STOP

Stops the normal functions such as record, playback, rewind, fast-forward, or pause.

TV•VCR

Switches the picture signal so that it either comes from the VCR or the TV channel.

See page 18.

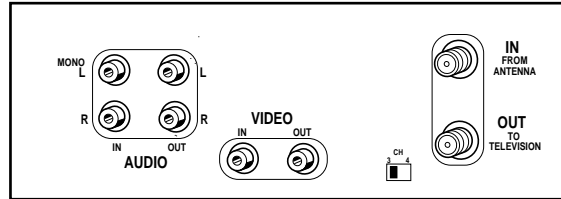
VIDEO IN Jack

Receives video signals from another component, like a VCR or camcorder, when it is connected to this jack.

Select L2 to record from this jack.

Location of Controls

Back Panel



CH3 CH4 Switch

Selects the channel to which you will tune the TV to see the VCR picture if you connect the VCR using one of the basic hookups.

IN FROM ANTENNA Connector

Receives the signal from an antenna, cable system, or satellite system that is attached to this connector.

OUT TO TELEVISION Connector

Passes signal to TV using the cable supplied.

VIDEO and AUDIO (R and L MONO) IN Jacks

Receives signals from another component, like a VCR or camcorder, when it is connected to these jacks. Use INPUT to select L1 in the VCR's display panel.

Attach a component that is not stereo to the L•MONO jack to hear sound on both channels.

VIDEO and AUDIO (R and L) OUT Jacks

Sends signals from VCR to another component, like a TV monitor or VCR, when it is connected to these jacks.

Display Panel

This VCR has a feature where you can change the brightness level of the fluorescent display panel.

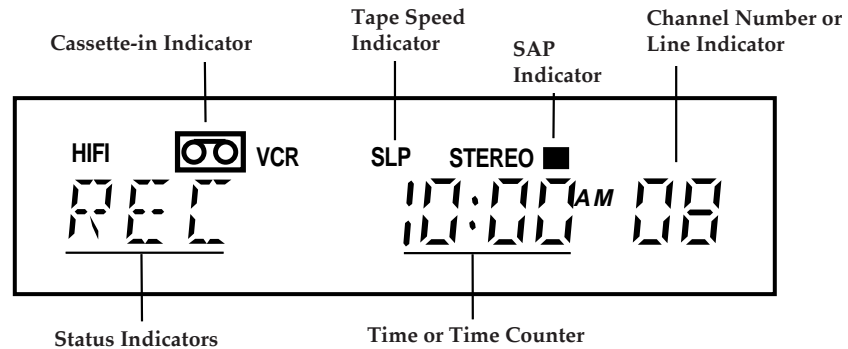
1. Press MENU•PROG on the remote to see the VCR MAIN MENU on the TV screen.
2. Press 6 to display the PREFERENCES menu.
3. Press 4 to select Front Panel: AUTO, BRIGHT, or DIM.
 - Select AUTO to keep the display panel bright when VCR is on and dim when it is off.
 - Select BRIGHT to keep the display panel bright.
 - Select DIM to keep the display panel dim.

```
VCR MAIN MENU
1 VCR Plus+
2 Timer Recordings
3 Time
4 Channels
5 Setup
6 Preferences
```

```
PREFERENCES
1 Remote Control: VCR1
2 Auto Play: ON
3 Auto TV/VCR: ON
4 Front Panel: AUTO
5 CA Marking: ON
6 CA Playback: AUTO
7 CA Display: BLUE
8 Set Auto Repeat
0 Exit
```

Location of Controls

Display Panel (continued)



Cassette-in Indicator ()

Lights when a tape is in the VCR.

Channel Number or L1 or L2

The channel number or line input is displayed. Select L1 to record from the jacks on the back of the VCR or L2 to record from the jacks on the front of the VCR.

HIFI Indicator

Lights during hi-fi playback when Tape Playback: HI-FI/LINEAR/MIX feature is set to HI-FI.

SAP Indicator ()

Lights when the Reception: STEREO/MONO/SAP feature is set to SAP.

Status Indicators

Show what the VCR is doing.

BYE	Turned off
COMM	
/MARK	CA marking in progress
EJECT	Ejecting tape
FFWD	Fast forward
HELLO	Turned on or unlocked
MARK 30	Marking process countdown
PLAY	Playback
REC	Record

REC P	Record pause
REW	Rewind
SRCH +	Forward search
SRCH -	Reverse search
SLOW +/-	Slow motion
STILL	Frame advance
STILL	Play pause
STOP	VCR stopped
TAPE flashes	Set for timer – no tape
TIMER	Timer recording set
X-REC	Express recording in progress

STEREO Indicator

Lights when the station you are tuned to is broadcasting stereo.

Tape Speed Indicators (SP, LP, or SLP)

Press SPEED to change.

Time or Time Counter

Press DISPLAY to switch between the current time and time counter.

VCR Indicator (Applies Only to Basic Hookups)

Press TV•VCR to turn on or off.

VCR indicator on: Picture from VCR.

VCR indicator off: Picture from TV channel.

Specifications

Format:	VHS
Record/Playback System:	Video: 4-Head Audio: 2 Hi-Fi record/playback system
Video Signal System:	EIA standard: NTSC color
Antenna:	75-ohm external VHF/UHF combined antenna terminal
Tuner:	USA: 181 channels capability* (125 cable channels) Canada: 178 channels capability* (122 cable channels)
Type:	Autoprogramming frequency synthesis
Power Requirement:	120V AC, 60 Hz
Power Consumption:	22 watts
Dimensions:	3.5 inches high (90 mm) 15.5 inches wide (393 mm) 12.5 inches deep (318 mm)
Weight:	9.3 pounds (4.2 kg)
Other:	Automatic Head Cleaner
Storage Temperature Range:	- 22°F (- 30°C) to +149°F (+65°C)
Operating Temperature Range:	+41°F (+5°C) to +104°F (+40°C)

*Check your cable company's compatibility requirements.

Cleaning the VCR

Use a soft cloth or dusting attachment of your vacuum cleaner to dust your VCR. Remove dust from the ventilation holes on the top, back, sides, and bottom of the cabinet.

Plastic surfaces are easily scratched and can be marred by alcohol and various solvents. Avoid excessive use of oil-based furniture polishes since the materials used in the cabinet will accumulate more dust. We recommend using a non-abrasive, anti-static cleaner and polisher.

Limited Warranty

What your warranty covers:

- Any defect in material or workmanship.

For how long after your purchase:

- Ninety days for labor charges.
- One year for parts.

The warranty period for rental units begins with the first rental or 45 days from the date of shipment to the rental firm, whichever comes first.

What we will do:

- Pay any Authorized RCA VCR Servicenter the labor charges to repair your VCR.
- Pay any Authorized RCA VCR Servicenter for the new or, at our option, refurbished replacement parts required to repair your VCR.

How you get service:

- Take your VCR to any Authorized RCA VCR Servicenter. To identify your nearest Authorized RCA VCR Servicenter, ask your dealer, look in the Yellow Pages, or call 1-800-336-1900.
- Show the service technician your evidence of purchase date.
- Pick up your VCR when repairs are completed.

What your warranty does not cover:

- Customer instruction. (Your Owner's Manual clearly describes how to install, adjust, and operate your VCR. Any additional information should be obtained from your Dealer.)
- Installation and related adjustments.
- Signal reception problems not caused by your VCR.
- Damage from misuse or neglect.
- Cleaning of video/audio heads.
- Remote control batteries.
- A VCR that has been modified or incorporated into other products or is used for institutional or other commercial purposes.
- A VCR purchased or serviced outside the USA.
- Acts of God, such as but not limited to lightning damage.

Product Registration:

- Please complete and mail the Product Registration Card packed with your VCR. It will make it easier to contact you should it ever be necessary. The return of the card is not required for warranty coverage.

How state law relates to this warranty:

- This warranty gives you specific legal rights, and you also may have other rights that vary from state to state.

If you purchased your VCR outside the United States:

- This warranty does not apply. Contact your dealer for warranty

Trouble Checks

Sometimes problems can be easily solved by checking a few basic things. Check below before you call for help or take your VCR to an Authorized RCA VCR Servicenter.

Trouble	Here's what to try:
No power	<ul style="list-style-type: none"> • Plug VCR into an operating outlet. • Check connections.
Clock shows incorrect time or date	<ul style="list-style-type: none"> • Make sure time zone and daylight savings information is entered correctly. <i>See page 14.</i> • If auto clock set is off by a few minutes, station may be sending inaccurate time information. • Clock was not set accurately (check AM/PM and date). • Time counter display appears in display panel. Press DISPLAY on remote.
VCR does not respond to remote	<ul style="list-style-type: none"> • Press VCR1 (VCR2•DVD) to set remote to control the VCR. <i>See page 22.</i> • VCR2•DVD button may be set to control a DVD. <i>See page 22</i> to change back to VCR2. • Aim remote at VCR with no objects between them. • Remove batteries and hold down one or more buttons for several seconds to drain the microprocessor inside the remote to reset it. Reinstall the batteries and try remote again. • Change batteries.
Remote no longer controls an RCA TV	<ul style="list-style-type: none"> • Press TV to set remote to control the corresponding compatible TV. <i>See page 23.</i> • Reprogram remote for RCA TV. <i>See page 23.</i> • Aim remote at TV with no objects between them. • Change batteries. • Remove batteries and hold down one or more buttons for several seconds to drain the microprocessor inside the remote to reset it. Reinstall the batteries and try remote again.
Remote no longer controls a compatible TV, cable box, satellite receiver, or auxiliary component	<ul style="list-style-type: none"> • Press TV, AUX, VCR2•DVD or SAT•CABLE to set remote to control a compatible component. <i>See pages 22-25.</i> • Aim remote at component with no objects between them. • Reprogram remote after batteries have been changed. • Reprogram VCR2•DVD button to 000 to operate compatible satellite receiver. • Change batteries. • Remove batteries and hold down one or more buttons for several seconds to drain the microprocessor inside the remote to reset it. Reinstall the batteries and try remote again.
VCR only responds to VCR2•DVD button on remote	<ul style="list-style-type: none"> • Check setting of Remote Control: VCR1/VCR2 feature. <i>See page 22.</i>
No picture when VCR turned on – using a basic hookup	<ul style="list-style-type: none"> • Press TV•VCR to turn VCR indicator on. <i>See page 18.</i> • Check to see if Auto TV/VCR feature is set to OFF. <i>See page 19.</i>
Poor or no picture for normal TV viewing	<ul style="list-style-type: none"> • Press TV•VCR to turn VCR indicator off. • Switch TV to an active channel. • Check antenna connections.
Snowy or no picture during playback	<ul style="list-style-type: none"> • Press TV•VCR to turn VCR indicator on. • Check TV channel selected (3 or 4) to make sure it matches the channel selected with CH3 CH4 switch on back of VCR. • Check TV's fine tuning. • Check video cable connections between VCR and TV monitor. • Set TV monitor to video input channel. • Try another tape. • Some snow/streaks are normal during search, frame advance, slow-motion, or stop-action playback.

Trouble Checks

Trouble	Here's what to try:
Time counter not working	<ul style="list-style-type: none"> • The time counter does not advance during unrecorded portions of tape. When an unrecorded segment of tape is encountered, the time counter will hold its count until recorded material is detected again. • A minus (-) will appear in front of the time if you rewind the tape farther back than a counter reading of 0:00:00.
Will not record or play	<ul style="list-style-type: none"> • No cassette in VCR. • Eject and re-insert cassette. • Broken tape — try another cassette.
Streaks in picture during normal playback	<ul style="list-style-type: none"> • Some snow/streaks are normal during search, frame advance, slow-motion, or stop-action playback.
Rewind does not operate	<ul style="list-style-type: none"> • Tape already rewound.
Will not record	<ul style="list-style-type: none"> • VCR is in pause mode. Press PAUSE. • Safety tab removed from cassette. • Make sure the line indicator (L1) or (L2) is turned off in VCR's display panel for normal recording from the VCR's tuner. Press INPUT to turn off the line indicator.
VCR Plus+ or timer recording not made or wrong program recorded	<ul style="list-style-type: none"> • Wrong PlusCode number entered. • Cable box or satellite receiver was not turned on at time recording was to begin. • Program entered incorrectly (wrong channel or times). • Power interruption. Clock area in display panel will show - :- -. • Check to see if time and date are correct — including AM/PM. • Program exceeded tape's length or tape was not rewound beforehand. • VCR was not turned off at the time recording was to start. • No tape in VCR or cassette's safety tab broken off.
VCR makes noise when stopped	<ul style="list-style-type: none"> • VCR is removing tape from heads. This is normal. The head cylinder inside the VCR will continue to rotate for a few minutes after you put the VCR in the stop mode.
Will not auto search active channels correctly	<ul style="list-style-type: none"> • Check antenna connections. • Check Signal Type: CABLE/ANTENNA feature. <i>See page 17.</i>
Cannot select channels over 69	<ul style="list-style-type: none"> • Cable channels over 69 can only be selected if Signal Type: CABLE/ANTENNA feature is set to CABLE. <i>Details are on page 17.</i>
Cassette with safety tab removed does not start to play automatically	<ul style="list-style-type: none"> • Set Auto Play ON/OFF feature to ON. <i>Details are on page 27.</i>
Remote control's backlighting does not stay on	<ul style="list-style-type: none"> • Press the remote buttons within a few seconds of each other or the light will turn off to conserve battery power. <i>Details are on page 28.</i>
Stereo or SAP sound not recorded	<ul style="list-style-type: none"> • Reception: STEREO/MONO/SAP feature must be set to STEREO to record broadcast stereo. <i>See page 46.</i> • Reception: STEREO/MONO/SAP feature must be set to SAP to record SAP on the linear track. <i>See page 46.</i> • STEREO indicator not on. Station not broadcasting stereo or SAP.

Trouble Checks

Trouble	Here's what to try:
No stereo sound during playback	<ul style="list-style-type: none"> • Tape Playback: HI-FI/LINEAR/MIX feature must be set to HI-FI to hear stereo sound during playback. <i>See page 46.</i> • Must use advanced hookups for stereo playback. <i>See pages 3-7.</i>
Stereo audio too noisy	<ul style="list-style-type: none"> • Stereo signal is weak. Set Reception: STEREO/MONO/SAP feature to MONO. • Press one of the TRACKING up or down buttons to minimize the noise.
VCR forwards through commercials or momentarily displays a blue screen during playback	<ul style="list-style-type: none"> • COMMERCIAL▶▶ADVANCE™ CA Playback feature set to AUTO. <i>See pages 30-31.</i>
VCR forwards through a rental or pre-recorded tape displaying a blue screen	<ul style="list-style-type: none"> • Some tapes use special control track marking. Set the COMMERCIAL▶▶ADVANCE™ CA Playback feature, in the PREFERENCES menu to MANUAL.
COMMERCIAL▶▶ADVANCE™ feature does not mark commercials	<p>The commercial advance feature does not mark commercials under the following situations:</p> <ul style="list-style-type: none"> • CA Marking: ON/OFF feature set to OFF. <i>See pages 36-37.</i> • Recording is less than 15 minutes. • A single isolated commercial cannot be marked. • Recording started in the middle of a commercial segment. • The commercial is longer than one minute. • A commercial group within the first or last two minutes of a recording. • It does not mark commercials between 30-and-45 seconds and 45-and-60 seconds. • Accuracy and effectiveness can vary depending upon program content and the characteristics of the commercials. • Effectiveness may vary when local television stations insert their own commercials.
Commercials recorded even though COMMERCIAL▶▶ADVANCE™ feature was turned on.	<ul style="list-style-type: none"> • COMMERCIAL▶▶ADVANCE™ is designed to record the commercials, mark

Questions & Answers About COMMERCIAL▶▶ADVANCE™

Question	Answer
Will commercials be scanned through only on playback of recordings?	Yes. The VCR does not rewind and mark commercial segments until after recording is finished.
How fast does the COMMERCIAL▶▶ADVANCE™ VCR scan through the commercial breaks?	In SLP tape speed, a 3-minute commercial break is scanned through in approximately 8-12 seconds. In SP, it takes about 25-35 seconds.
Are commercials still recorded if I want to watch them?	Yes. The recorded program, including commercials, can be viewed by setting the CA Playback feature to MANUAL.
What if the VCR scans forward through part of my program?	Simply rewind the tape to just before the skipped segment, and press PLAY to view the program.
Once a recording has been marked, does COMMERCIAL▶▶ADVANCE™ work each time the tape is played?	Yes. If the CA Playback feature is set to AUTO, the marked commercials should be skipped each time the tape is played in a COMMERCIAL▶▶ADVANCE™ VCR.
After marking commercials, is the tape left at the beginning or end of the recording?	The tape is left at the end of the recording so it is in position to begin additional programmed recordings.
Does the marking process interfere with other programmed recordings?	No. If two or more recordings are programmed together without sufficient time to mark the first recording, marking will take place after all recordings have completed.
What happens if the marking process is interrupted?	Marking can be interrupted to allow use of the VCR. Marking will resume again when the VCR's power is turned off as long as the tape has not been ejected from the VCR.
Does COMMERCIAL▶▶ADVANCE™ work in all recording speeds?	Yes, COMMERCIAL▶▶ADVANCE™ works in SP, LP, and SLP.
Will COMMERCIAL▶▶ADVANCE™ marked recordings work in non-COMMERCIAL▶▶ADVANCE™ VCRs?	A COMMERCIAL▶▶ADVANCE™ marked recording will play in a non-COMMERCIAL▶▶ADVANCE™ VCR, but commercials will not automatically be skipped.

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For your nearest Authorized Servicenter
call toll-free in the U.S.A.

1-800-336-1900

Canadian Consumers –
Your toll free numbers are:

English: 1-800-522-0338

French: 1-800-522-0445

If you would like a copy of this manual in French, please follow the
instructions below:

Si un livret d'instructions en français n'est pas inclus avec votre appareil, vous
pouvez en obtenir un (indiquer le numéro de modèle, votre nom, et votre
adresse) en vous adressant à:

Thomson Consumer Electronics
Attention: Canadian Operations
P.O. Box 0944
Indianapolis, IN 46206-0944

If your VCR needs service, please contact your dealer
or the nearest Servicenter from the yellow pages.
Please do not send any products to the Indianapolis
address listed in this manual or on the carton. This
will only add delays in service for your product.

 **THOMSON CONSUMER ELECTRONICS**

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